

Provider Satisfaction Study

Shayne Brannman • Cori Rattelman • Susan Schutte

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Laurie J. May, Director
Medical Programs
Resource Analysis Division

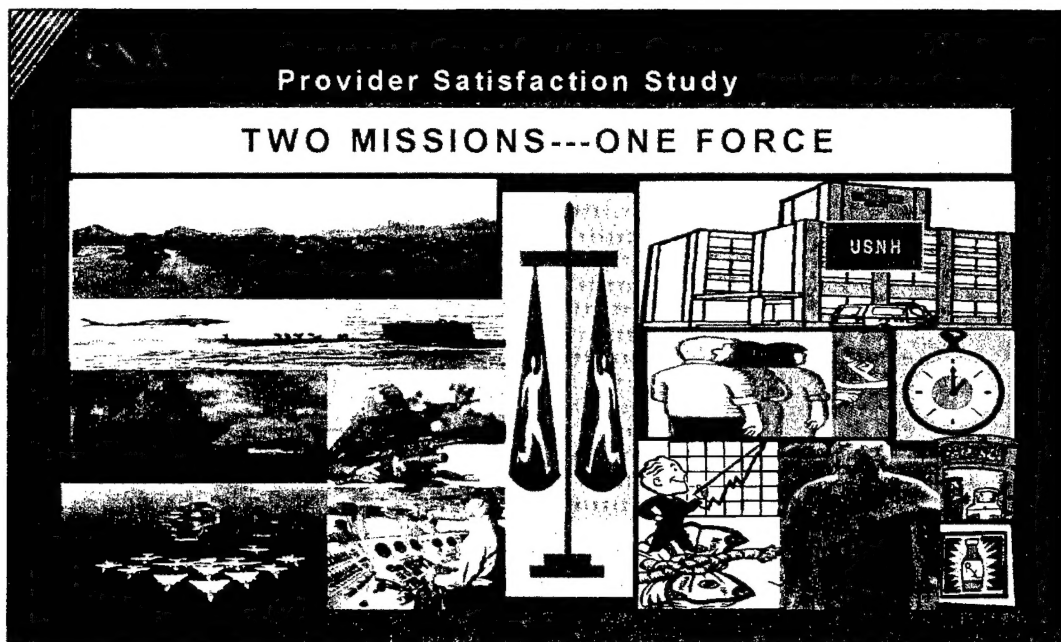
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Contents

Introduction	1
Objectives	2
Findings	2
Background	3-4
Physician Job Satisfaction	5
Approach	5
Factors Affecting Navy Physicians.....	6
Factors Affecting Civilian Physicians	7
Comparative Analysis	8-15
Conclusions	15
Navy Physician Satisfiers	16
Comparative Analysis of Navy and Private-Sector Compensation	18
Approach	18
Methodology	19
Results Current Annual (7 Years of Service).....	20
Results Current Annual (12 Years of Service).....	21
Results Future Value (12 Years of Serve).....	22
Widening Military-Civilian Physician Pay Gap	23
FY 1991 vs. FY 2000 Pay Gap.....	24
Promotion Opportunity	25
Percent of Total Medical Corps Inventory	26
Overall Promotion Opportunity.....	27
Family Stability	28
Navy Physician Retention	29
Historical Inventory.....	29
Historical Continuation Rates.....	30
Methodology	31
Retention Results (Surgical Specialties)	32-33
Retention Results (Evaluation and Mgmt. Specialties)	34
Retention Results (Ancillary Specialties)	35
FY 2000 Pay Gap vs. FY93-98 Retention Comparison....	36
Conclusions	37
Recommendations.....	38-39
Appendix A: Factors Affecting Navy Physician Job Satisfaction	41-44

Appendix B: Factors Affecting Civilian Physician Job Satisfaction	45-60
Appendix C: Methodology, Assumptions, and Selected Findings for Comparison of Navy and Private-Sector Physicians' Total Compensation, by Medical Specialty	61-68
References	69-74
Distribution	75-76



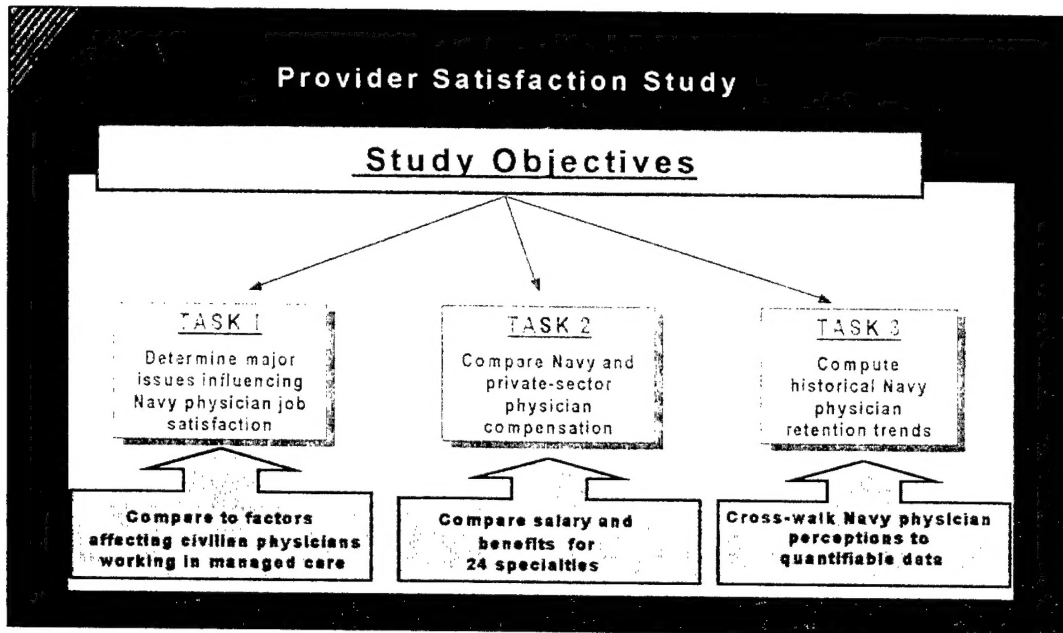
The Navy medical department is charged with maintaining healthy Sailors and Marines, attending to the sick and wounded in time of conflict, and successfully competing for and treating patients within the peacetime benefit mission. Because military medicine relies on a single force to meet these sometimes disparate missions, it faces a great challenge to cultivate a workforce that is dedicated to caring for patients, knowledgeable, committed to continuous improvement in performance and productivity, and adaptable and competent in both wartime and peacetime benefit settings.

Navy Medicine's ability to meet this challenge and maintain its personnel readiness mission rests on three broad principles: [1]

- 1) Navy Medicine will attract and access quality individuals.
- 2) The medical department will retain the best of the people accessed.
- 3) The best people will want to remain in the military because of the challenge, training, professionalism, and overall environment of Navy Medicine.

As the military health system (MHS) evolves to meet the managed care environment of the peacetime benefit mission, Navy Medicine in particular, and DoD in general, must continue to concern themselves with these principles.

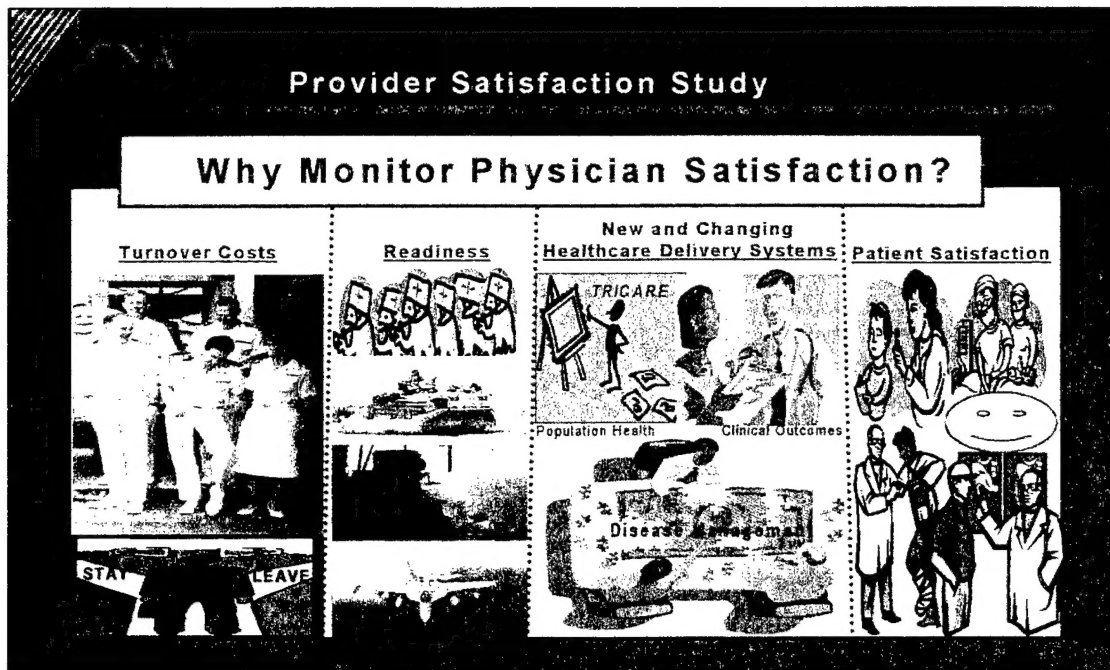
DoD implemented TRICARE to maximize the quality of healthcare while minimizing the cost of that care. To meet this goal, military medicine must continue to attract and retain quality personnel under this changing work environment. Given these challenges and concerns, the Navy Surgeon General asked the Center for Naval Analyses (CNA) to evaluate physicians' job satisfaction within the existing climate to determine whether major problems exist that adversely affect retention of specialists.



Objectives. To address the Navy Surgeon General's concerns, we conducted a three-part analysis. First, we identified key factors in Navy physician job satisfaction/dissatisfaction. When possible, we quantified those specific issues that might lead to dissatisfaction among Navy physicians. Next, we developed a model comparing the total compensation (salary, special and incentive pays, pension, and other benefits) for Navy and private-sector physicians based on the most typical Navy career. Finally, we began the evaluation process of determining whether Navy physicians are leaving at a greater rate than they historically have.

Findings. We have examined Navy physician retention and compensation patterns over the past decade. We find that there has been a decline in retention for the majority of specialties, but the cause and extent of the decline are difficult to quantify. We have attempted to identify the main drivers behind this decline, including compensation, work environment, and promotion opportunity. Contrary to anecdotal evidence, there has been no decline in promotion opportunity to O6; however, we do find that the military-pay gap has widened by 4 to 24 percent for most specialties during the 1990s.

In the first section of this brief, we summarize our analysis of physician job satisfaction, starting with the importance of physician satisfaction in today's healthcare systems.

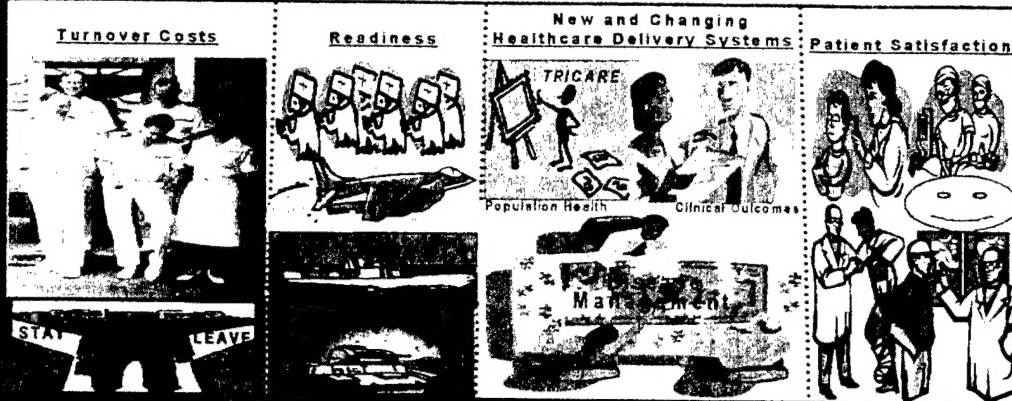


Why monitor physician satisfaction? Public and professional anxiety over managed care receives constant attention in the popular press, professional journals, and research studies. This anxiety has not escaped Congress, DoD policy-makers, and leaders within military medicine as they grapple with how to make TRICARE respond to changes in the healthcare delivery system while controlling the costs associated with that care. One key to managed care's success is the management of physician's practices and empowering physicians with the competencies and capabilities to carry out their new roles [2]. It is particularly important for military medicine to monitor physician job satisfaction for the following reasons:

- **Physicians are expensive to replace.** DoD relies on the Armed Forces Health Profession Scholarship Program (AFHPSP) to recruit the majority of its physicians because it is unable to directly procure fully trained physicians for the specialties and quantities required. It is estimated that it costs DoD about \$125,000 for each AFHPSP graduate [3]. This does not include the additional expenses associated with internships, residency, and fellowship training. Because Navy physicians have skills that are readily interchangeable with those in the private sector, if they become too dissatisfied with the military, they will leave, and it takes a long time to "grow" a military physician specialist.
- **Readiness.** One of the major reasons that physician job satisfaction and retention should be closely monitored is so that the Navy can meet its day-to-day operational and contingency requirements. Previous CNA work revealed that physicians who are unhappy, particularly with compensation, are more likely to leave the Navy, which may result in critical specialists not being immediately available for contingency missions, thereby affecting operational readiness [4].

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Why Monitor Physician Satisfaction? (Cont.)



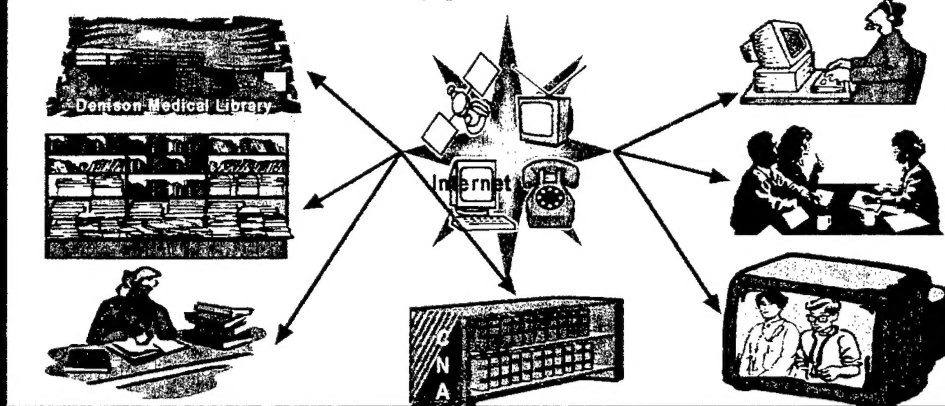
- **DoD needs its physicians to participate willingly and actively in work redesign and population health efforts if these programs are to succeed.** In addition, the restructuring of the healthcare delivery systems and ongoing efforts to improve quality and control costs are changing how the “work” of healthcare is organized [5]. As military medicine applies population health, disease, and evidenced-based management principles to its practices, it is particularly important that those closest to the patients provide their insights into these processes. Physicians possess knowledge that nonclinicians do not: the ability to identify what diagnoses and conditions are most amenable to clinical guidelines, pathways, and protocols; clinical outcome measures that can be validly and reliably developed; and how technology and pharmaceuticals will most likely influence treatment patterns [6]. DoD needs its frontline clinicians to be actively engaged in these processes if cost reductions are to occur without decreasing quality. If military medicine’s frontline physicians are unhappy with their working environment, the likelihood of their embracing, let alone leading, these new programs significantly diminishes.

- **Patient satisfaction and physician satisfaction are inextricably linked.** Finally, physicians’ job satisfaction affects their interpersonal relationship with patients [7]. It is difficult for any healthcare organization to be the “preferred source of treatment” if the physicians within that health plan are unhappy. The cornerstone of the patient-physician relationship is based on trust. Military physicians must be able to “trust” that the military healthcare system has their, and their patients’, interests as a top priority. Although DoD policy-makers and military treatment facility executive committees design quality improvement strategies to improve patient satisfaction, the frontline providers must ultimately implement those strategies.

Provider Satisfaction Study

Task 1: Top 6 Factors Influencing Physician Job Satisfaction

Approach



Identifying major issues influencing Navy physician job satisfaction involved collecting Navy physicians' opinions on the key determinants of job satisfaction/dissatisfaction. We consulted with subject matter experts involved with managing the Navy Medical Corps to gather their insights about the major issues facing Navy physicians. We also reviewed previous CNA and other federal research regarding military physician satisfaction, attended several national specialty conferences, and made site visits to and conducted video and teleconferences with Navy medical treatment facilities to interview Navy physicians (more than 300 physicians participated in the interview sessions). In addition, we reviewed the 1999 Specialty Leader Reports to provide a more global perspective and to identify trends affecting the Navy physicians across specialties.

To place the key factors affecting Navy medical officers into context, we identified the major themes affecting civilian physician job satisfaction within a managed care environment. We compared issues causing dissatisfaction among Navy physicians with those issues most commonly found among civilian providers in a managed care environment. We conducted a literature search for documents that addressed physician job satisfaction in a managed care environment [8-56].

This comparative analysis allowed us to disentangle which job satisfaction factors were primarily *military specific* versus those factors emerging as a result of *managed care* practices.

Provider Satisfaction Study



Task 1: Top 6 Factors Influencing Navy Physicians Job Satisfaction



Insufficient Monetary Compensation



Devaluation of Clinical Excellence



Decreasing Professional & Career Growth Opportunities



Inadequate Administrative and Technical Support



Poor Business Practices



Decreasing Recognition and Value of Physician Contributions

Based on our analysis, we identified the following job satisfaction issues for Navy physicians. Appendix A provides a more detailed description of the issues.

Insufficient Monetary Compensation. Navy physicians perceive that their income is below that of their civilian counterparts and continuing to fall further behind.

Inadequate Administrative and Technical Support. Navy physicians believe that the lack of qualified and well-trained support staff is having a negative effect on efficiency.

Devaluation of Clinical Excellence. Navy physicians perceive an increasing pressure to assume additional administrative and collateral duties in order to be competitive for promotion.

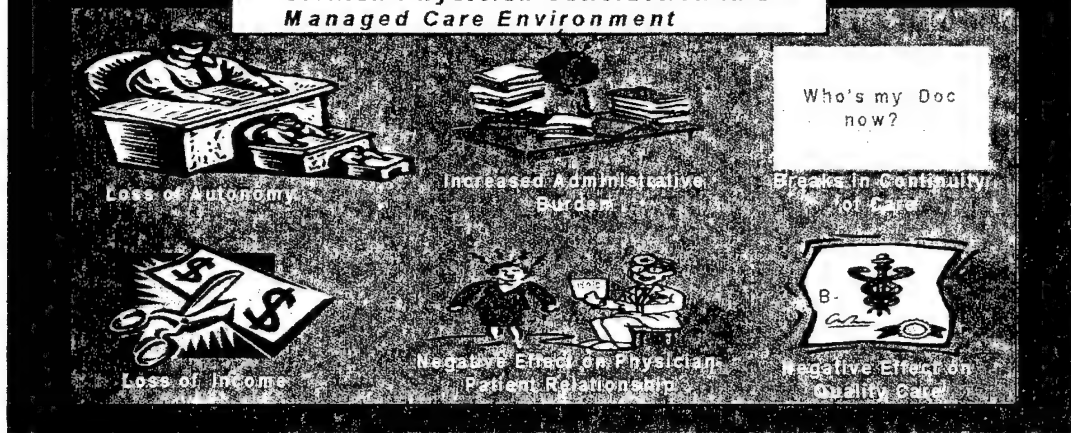
Poor Business Practices. Navy physicians perceive that the goals and priorities of the MHS are inconsistent and do not support the efficient operation of the clinical environment. Resources are not aligned to enhance patient care and provider productivity.

Decreasing Professional Growth Opportunities/Career Issues. There is a perception that fellowship opportunities are decreasing. Most Navy physicians were not satisfied with the funding for annual continuing medical education (CME) activities.

Lack of Recognition and Value of Physician Contributions. Some Navy physicians believe that certain senior DoD and Navy leaders do not appreciate the intellect, hard work, and perseverance it takes to first become a physician and then practice frontline medicine on a daily basis.

Provider Satisfaction Study

Task 1: Top 6 Factors Influencing Civilian Physician Satisfaction in a Managed Care Environment



Based on our analysis, we identified the following job satisfaction issues for civilian physicians working in a managed care environment. Appendix B provides a more detailed description of the issues.

Loss of Autonomy. The perceived loss of autonomy is reflected in all the studies. Civilian physicians believe that they have less freedom to make clinical decisions. Authorization for services and referrals to specialists must be reviewed and approved by a third party prior to care.

Loss of Income. Income is affected through the different reimbursement contracting imposed on physicians. Capitation arrangements and low third-party fee-for-service payments have reduced income for some practices.

Increased Administrative Burden. Civilian physicians typically associate with several health plans. Each managed care plan has its own set of practice guidelines and utilization rules, which change frequently and have increased the administrative work required.

Negative Effect on Physician/Patient Relationship. Civilian physicians complain that relationships with patients are negatively affected in the managed care environment. Lack of time to spend with patients due to increases in patient workload and bureaucratic "quagmires" frustrates the patient and the physician.

Breaks in Continuity of Care. Today, a change of primary care physician due to the patient's coverage under a new healthcare plan is a common occurrence. To lower employer costs, employers frequently switch healthcare plans.

Negative Effect on Quality of Care. Civilian physicians believe that insurers' practice guidelines and utilization rules can often negatively affect the quality of care. Physicians cite delays in referral approvals, treatment authorizations, and treatment decisions by non-physicians as eroding quality.

Provider Satisfaction Study

Task 1: A Comparative Analysis of Navy and Civilian Physician Issues

NAVY

- Insufficient monetary compensation
- Inadequate support staff
- Devaluation of clinical excellence
- Poor business practices
- Decreasing professional growth
- Decreasing value of physician contributions

Important DOD policy-makers and healthcare executives understand, when importing managed care practices into military medicine, that physicians won't give up their autonomy easily.

Private Sector

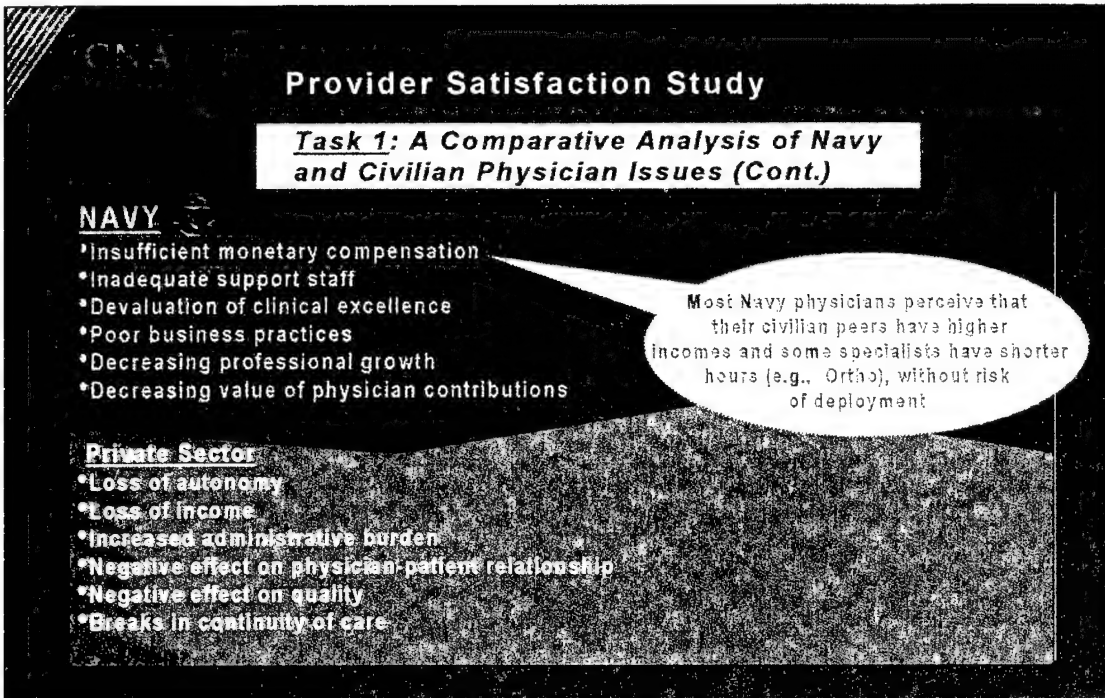
- Loss of autonomy
- Loss of income
- Increased administrative burden
- Negative effect on physician-patient relationship
- Negative effect on quality
- Breaks in continuity of care

A comparative analysis of the issues contributing to Navy and civilian physician job satisfaction resulted in mixed findings. Some dissatisfaction factors were the same for both groups; however, the reasons or basis for the dissatisfaction were different. Some issues were unique to one group or the other. The managed care environment contributed directly to physician dissatisfaction in some instances and exacerbated or made issues more visible in other situations.

Common or Related Issues

Autonomy. Loss of autonomy is a major source of physician dissatisfaction in the managed care environment. In the civilian world, physicians believe that managed care has severely limited their ability to make clinical decisions. Managed care organizations require authorization for services and referrals to specialists. This intrusion of a third party prior to care has caused many physicians to feel that they no longer have control over patient care. Physicians feel that they are being "second guessed" by clerical staff who do not have the medical education or knowledge of the patient. Physicians believe that quality of care and the patient/physician relationship are being jeopardized by the continuing intervention of a third party.

Although Navy physicians did not cite loss of autonomy as a significant concern, related issues surfaced in the physician interviews and the Specialty Leader Reports. Navy physicians feel that they have little control over workload and policy decisions. The physicians believe that productivity goals are taking the *management of medicine* away from them. This issue is also one faced by the civilian physician and is related to the managed care environment. Lack of control over practice and workload is a significant contributor to loss of autonomy.



A wide array of literature purports that physician involvement in managerial decisions and policy is positively associated with satisfaction. Most physicians, both Navy and civilian, believe that involvement and input into decisions and policy will help physicians regain control over their practices.

Income. Civilian physicians have cited loss of income as a major concern and a direct result of managed care contracts. Capitation arrangements and low third-party fee-for-service payments have reduced income for some practices. The administrative burden imposed by managed care rules and requirements has also been associated with the increased cost of doing business and the reduction of net income. Specialist income has been reduced as a result of the "gatekeeper" arrangements and the limits on referrals imposed by the healthcare organization. These controls have resulted in a reduction of specialists' patient visits. Despite these perceptions of lower income, a 1999 Medical Group Management Association (MGMA) report using 1998 group practice data found that specialists' income in 1998 had risen by 5.2 percent and primary care physicians' income that same year had risen by 2.5 percent. In addition, PPOs appear to be on the increase, which will decrease the "gatekeeper" role of the family practice physician and increase the demand for specialists.

Navy physicians also perceive their compensation as a concern, but for a different reason. As the civilian managed care market has stabilized, medical groups are offering higher salaries, bonuses, and perks that the Navy has not matched. Navy physicians perceive that their income is below that of their civilian counterparts and continuing to fall further behind. Civilian peers are viewed as having a higher income, shorter hours for some specialties (e.g., Orthopedic Surgery), and no risk of deployment. This compensation issue has been exacerbated by the increase of the civilian physician contracting arrangements that have put Navy and civilian physicians to work side by side.

Provider Satisfaction Study

Task 1: A Comparative Analysis of Navy and Civilian Physician Issues (Cont.)

NAVY

- Insufficient monetary compensation
- Inadequate support staff
- Devaluation of clinical excellence
- Poor business practices
- Decreasing professional growth
- Decreasing value of physician contributions

Managed care has increased the administrative burden on civilian physician practices. Navy physician practices perceive insufficient support unrelated to managed care.

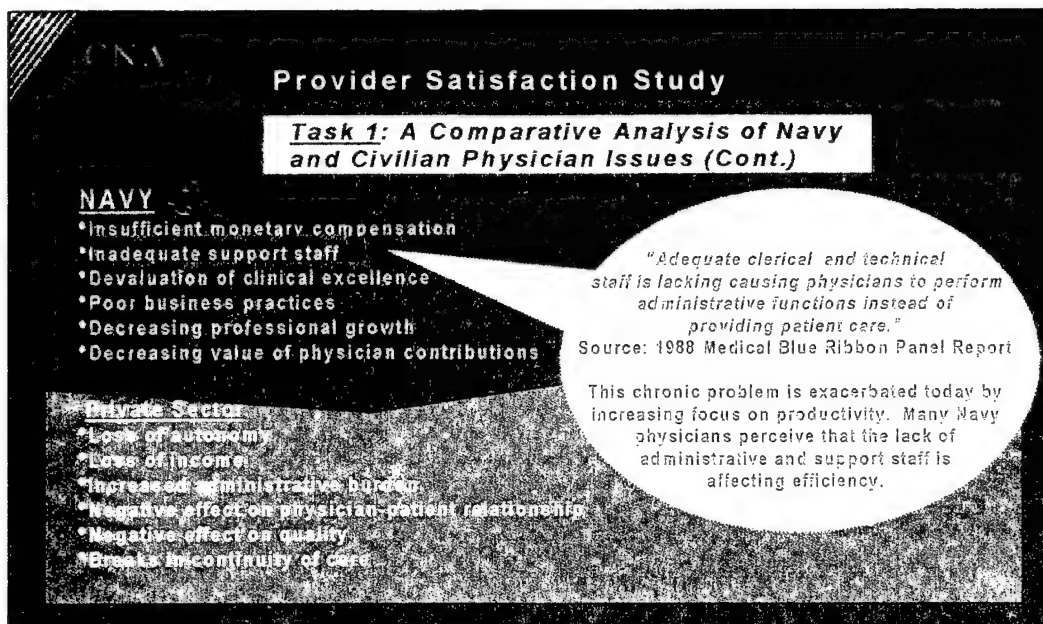
Private Sector

- Loss of autonomy
- Loss of income
- Increased administrative burden
- Negative effect on physician-patient relationship
- Negative effect on quality
- Breaks in continuity of care

The Navy physician compensation issue may have become more visible because of the recent higher demand for specialists and contracting arrangements, but the pay gap has been a Navy physician concern for several years and is not the result of the managed care implementation.

Administrative Burden. Managed care in the civilian community has increased the administrative burden on physician practices. Each managed care plan has its own set of practice guidelines and utilization rules, which change frequently. Each plan also has its own list of approved labs, prescriptions, referral rules, and service authorization requirements. These different plan terms and limitations have created an administrative nightmare for practice support staff and physicians. Coordination among patients, physicians, and third parties prior to care to ensure that services are covered has become time-consuming and confusing. The result has been to add office staff to handle the related paperwork and phone calls.

New managed care contracting arrangements that control or limit reimbursement and risk have also added to the administrative burden. Civilian physicians might have several contracts with different health plans that have unique reimbursement arrangements. Keeping track of the third-party payments and the practice income also requires additional time and staff. The concerns for the civilian physician involve the cost of support staff, the complication of the practice, and the time taken from direct patient care.



Navy physicians are also concerned about support staff and administrative burden. Although the Navy issue is not directly related to the complication and burden of managed care perceived in the civilian community, the concern with support staff has become more visible with the discussion of TRICARE productivity goals. Navy physicians are not satisfied with the numbers of support staff or the quality of the staff. Physicians have voiced concern with the constant staff rotation, temporary assignments, and poorly trained support and technical staff. They believe that the lack of administrative and support staff is affecting efficiency and may jeopardize patient care. Clinic managers are needed to manage day-to-day operations. Navy physicians are spending time with patient appointments, reports, and maintenance of exam rooms. Well-trained and qualified staffing is usually an issue in any office environment. The perceived lack of staffing voiced by the Navy physicians, however, does not appear to be duplicated in the civilian community.

In addition, the administrative burden for Navy physicians is exacerbated by "military unique factors" that place demands on Navy physicians and may impose constraints on their productivity—i.e., *those activities that their civilian counterparts do not face* [57]. These activities include individual readiness, supporting fleet and FMF readiness, and supporting Navy Medicine's day-to-day operations, as well as military-specific factors, such as personnel inspections. CNA estimates that the nonavailability factor for active-duty Navy physicians, based strictly on military-unique functions, is between 9 and 11 percent. For example, we estimate that a fully trained active-duty Navy physician in a CONUS billet spends, on average, the equivalent of 22 days per year performing readiness and military-specific activities.

Equipment availability and frequent maintenance complaints are also issues commonly reported by the Navy physicians. Equipment problems are not related to managed care and are not prominent in the civilian literature review.

Provider Satisfaction Study

Task 1: A Comparative Analysis of Navy and Civilian Physician Issues (Cont.)

NAVY

- Insufficient monetary compensation
- Inadequate support staff
- Devaluation of clinical excellence
- Poor business practices
- Decreasing professional growth
- Decreasing value of physician contributions

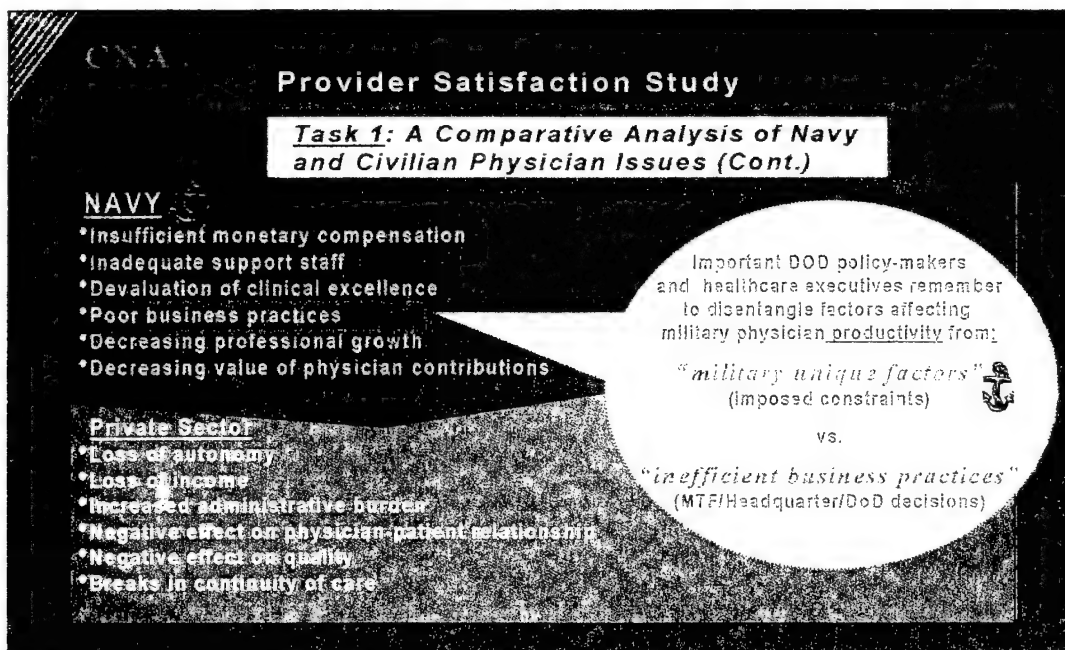
Private Sector

- Loss of autonomy
- Loss of income
- Increased administrative burden
- Negative effect on physician-patient relationship
- Negative effect on quality
- Breaks in continuity of care

The erosion of the physician-patient relationship is a concern frequently voiced by both civilian and Navy physicians. Navy physicians perceive that they have little or no control to "fix" patient scheduling system, parking, or TRICARE claims processing, but these type of issues are often imported into outpatient visits by frustrated patients.

Patient/Physician Relationship. The erosion of the patient/physician relationship is a concern frequently voiced by civilian physicians in managed care environments. Increases in patient workload and the intervention of third parties in treatment decisions have had a negative effect on the patient's confidence in the physician. Untrusting and impatient patients have also frustrated physicians and contributed to physician dissatisfaction. Patients are impatient with the administrative mechanics of managed care. Self-diagnosis is more frequent, and patients sometimes believe they know more than the physician about their illness. Not all of these changes in the patient/physician relationship are related to managed care. Patients have been forced to become better consumers of health care and have access to more medical information through the media and the Internet. Most of these issues can also be found in the Navy medical environment. Patients are informed consumers and are impatient with delays and inefficiencies. Patients are unhappy about visit scheduling, parking, MTF, and TRICARE policies. Patient frustration is commonly taken out on the Navy physicians, who feel they have no control over problems. The new DoD policy to have each PRIME enrollee be given a primary care manager, by name, should strengthen the military physician-patient relationship. Also on a positive note, the vast majority of Navy physicians said they "loved" their patient population.

Quality of Care. Physicians in civilian practice have perceived managed care practice guidelines, referral limits, and treatment authorizations as negative factors affecting quality of care. The emphasis on productivity goals and cost reduction are also viewed as negative factors that can compromise care. These same issues, although to a much lesser degree, are concerns for the Navy physician. Inadequate support staff, exam rooms, and equipment are viewed as cost-cutting measures that will negatively affect the Navy patient quality of care. Productivity standards imposed without the appropriate administrative and technical support are also perceived as potentially affecting quality of care. Most Navy physicians felt that the current treatment quality was good, but they believed that poor business practices and inadequate support staff could compromise care.



Poor Business Practices. Both civilian and Navy physicians were dissatisfied with productivity goals and how those goals were established; the Navy physicians were also concerned with a lack of a common approach toward objectives. Navy physicians did not believe that DoD and Headquarter leadership or the MTF healthcare teams were efficiently coordinating their efforts to achieve goals.

Navy physicians were also concerned about the data available to make strategic decisions and plan effectively. Lack of timely reporting and availability of relevant data were also noted in the civilian literature as concerns, but were not among the prominent physician issues.

Unique Issues Between Navy and Private Sector Physicians

Continuity of Care. Civilian physicians are dissatisfied with the patient continuity of care in the managed care environment. This was not a concern voiced by the Navy physicians interviewed. Frequent changes in health plans, provider networks, and health plan policies have interrupted patient care and increased paperwork for medical offices. Because Navy physicians expect to manage a mobile population, continuity of care was not cited as concern. Several Navy physicians mentioned management of the referrals to the civilian physician networks as sometimes causing coordination issues, but most of the physicians did not cite these referrals as a major continuity-of-care problem.



Devaluation of Clinical Excellence. The perceived devaluation of clinical excellence in Navy medicine is a significant issue noted in the interviews with physicians and mentioned in most of the Specialty Leader Reports. Navy physicians feel increasing pressure to assume additional administrative duties in order to be competitive for promotion.

Provider Satisfaction Study

Task 1: A Comparative Analysis of Navy and Civilian Physician Issues (Cont.)

NAVY

- Insufficient monetary compensation
- Inadequate support staff
- Devaluation of clinical excellence
- Poor business practices
- Decreasing professional growth
- Decreasing value of physician contributions

Navy-specific issue. The perceived decline in fellowship opportunities is an important issue for junior specialists.

Private Sector

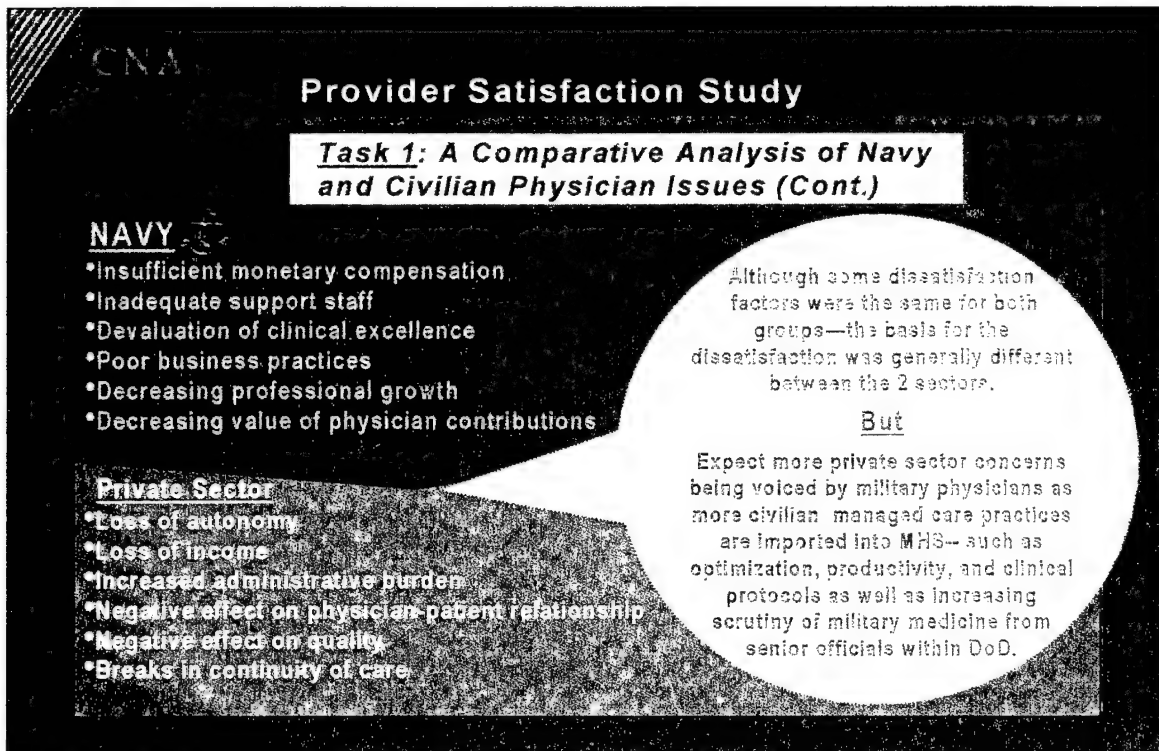
- Loss of autonomy
- Loss of income
- Increased administrative burden
- Negative effect on physician-patient relationship
- Negative effect on quality
- Breaks in continuity of care

Physicians believe that excelling at clinical skills and patient care is not enough to achieve promotion to O6. Those physicians who have no interest in administrative activities or executive medicine feel unappreciated and undercompensated. Navy physicians also believe that leadership is sending a mixed message: our goal is to improve quality, productivity, and patient satisfaction; however, those physicians providing the frontline patient care and not assuming additional administrative duties will not be recognized and possibly not promoted to captain (O-6).

In civilian practice, there is pressure to achieve goals primarily for monetary and practice recognition. Most practices or managed care groups have base salary agreements. Bonus or incentive payments can be earned by achieving certain goals related, for example, to cost or patient workload. Emphasis on administrative activities does not appear to be a "promotional" issue in civilian practice.



Professional Growth Opportunities. The decrease in professional growth opportunities (e.g., fellowship positions) and lack of a defined career track appear to be unique issues with Navy physicians and are not concerns specifically noted in the civilian literature in terms of job satisfaction. The risk of deployment and its effect on family stability and career path are not issues in the civilian world—but a very common concern voiced by the Navy physicians interviewed. Civilian physicians have more control than Navy physicians over their career track and the timing of career decisions. There is also a clear perception that the opportunity for selection to captain has declined in recent years.



Professional Recognition and Respect. Navy physicians are dissatisfied with the lack of recognition and respect from high levels within DoD. Clinical excellence is not recognized, and the physicians believe that Navy leadership does not value them for their knowledge and hard work. Many Navy physicians felt that they were not treated with the respect their profession and rank deserve. One example, voiced consistently in the interviews was inadequate CME funding. Navy physicians said they felt like “second class citizens” when attending CME conferences because of the low funding available for hotels and meals. This issue appears to be unique to Navy physicians.

As noted earlier, many civilian medical groups market the skills and quality of their network physicians. Informing the Navy community of the high qualifications of their Navy physicians might increase community awareness and recognition.

Conclusions

We found that it is still not possible from these recent interviews with the Navy physicians to conclude that the implementation of managed care has directly caused any of the Navy issues cited above. However, clearly some of the issues have been exacerbated or gained visibility because of the implementation of TRICARE and increasing scrutiny of military medicine from senior officials within DoD. Because some of the Navy physician job dissatisfaction is linked to *managed care*, a real potential exists that dissatisfaction will increase as TRICARE continues to be fully implemented.

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Task 1: What makes Navy physicians happy?

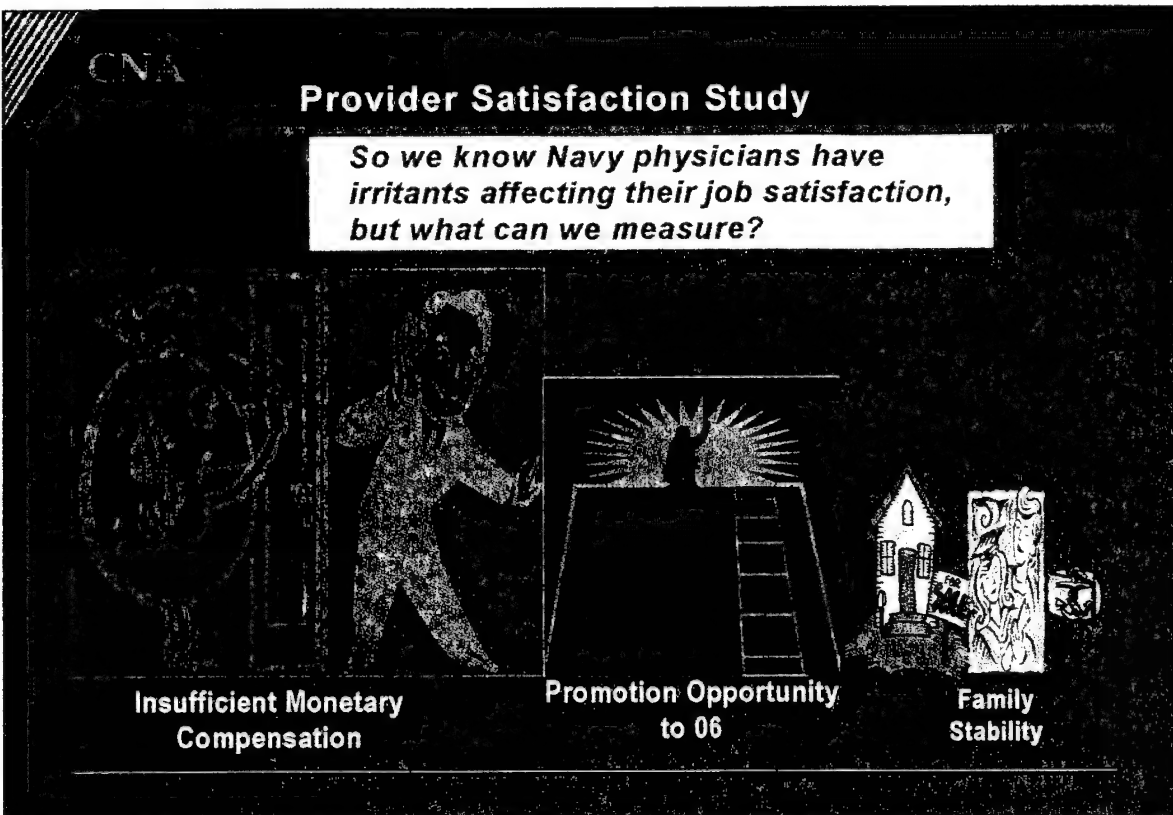
- USUHS AND AFHPSP programs attract quality people
- Navy graduate medical education perceived outstanding (main reason why many "stayed")
- Compensation during Navy residency is better than private sector
- Strong camaraderie between Navy physicians (most like Navy as a whole too)
- They "love" their patient population (case mix interesting & compliant)
- Navy allows them to practice quality patient care (patients get services and treatment they need)
 - Like seeing some retirees and Space "A" patients
- Fellowship and teaching opportunities very important to keep individuals in until retirement
- Vast majority enjoyed their general medical officer tour before specializing

Some afraid this will change as DoD imports more managed care business practices into MHS

Navy Physician Satisfiers. We also asked the Navy physicians interviewed to remark on military medicine's strengths. The vast majority of Navy physician accessions come from the AFHPSP and the Uniformed Services University of the Health Sciences (USUHS) programs. Subsidization for medical school is the number one reason most Navy physicians joined the military. The physicians interviewed universally felt that the military accesses quality individuals from both of these programs. The camaraderie between Navy medical officers is perceived as very high.

We also found that most physicians felt that the Navy's in-house graduate medical education (GME) programs are some of the best in the nation. The quality of these training programs, and the opportunity to serve as program director, is often a major factor in why Navy physicians remain in the service. Moreover, Navy physicians perceived that they are better compensated than their civilian counterparts during residency training. The possibility of being selected for a fellowship or teaching position is cited as a significant reason why a Navy clinician would stay until retirement.

Finally, the overwhelming majority of physicians interviewed felt that Navy Medicine does an excellent job of letting them practice quality patient care. Their patients get the treatment and services required but many fear that this may change as more managed care practices from the private sector are imported into military medicine. And lastly, almost every physician interviewed commented on how much they "loved" their patient population. Why? Navy physicians enjoy an interesting case mix (when allowed to see some retiree and space-available patients), and most of their patients willingly comply with prescribed treatment regimens.



Measuring Three Navy Physician Perceptions. In identifying those factors that most influence Navy physicians' job satisfaction, we found that some issues resulting in physician dissatisfaction could be evaluated through existing, quantifiable data. For example, is there in fact a pay disparity between Navy and civilian physicians, or is this merely a perception among Navy physicians? If a pay disparity exists, how large is it? Does it vary by specialty? Has it increased or decreased over time?

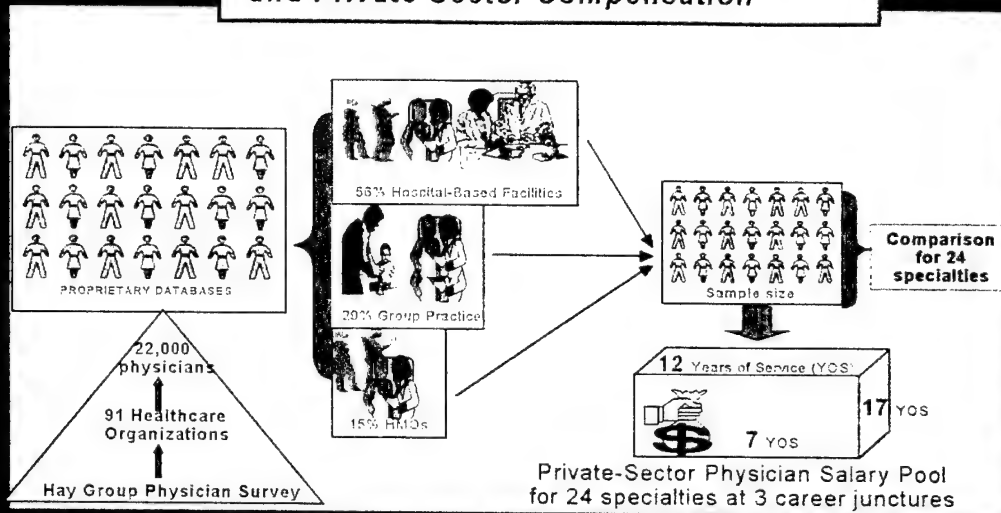
Based on the frequently reported belief that Navy physicians feel inadequately compensated, we conducted a detailed analysis on compensation. We also performed a cursory review of a commonly reported Navy-unique perception affecting job satisfaction--declining promotion opportunity to captain (O6). In an attempt to answer the question of family stability, we quantified the average number of geographical locations and time spent in a location for Navy careerists.

We recommend further analysis of additional factors negatively affecting Navy physician job satisfaction, such as inadequate administrative and technical support, poor business practices, devaluation of clinical excellence, and decreasing professional growth opportunities.

Let's now turn our attention to one of the most commonly reported Navy physician perceptions, *insufficient monetary compensation*.

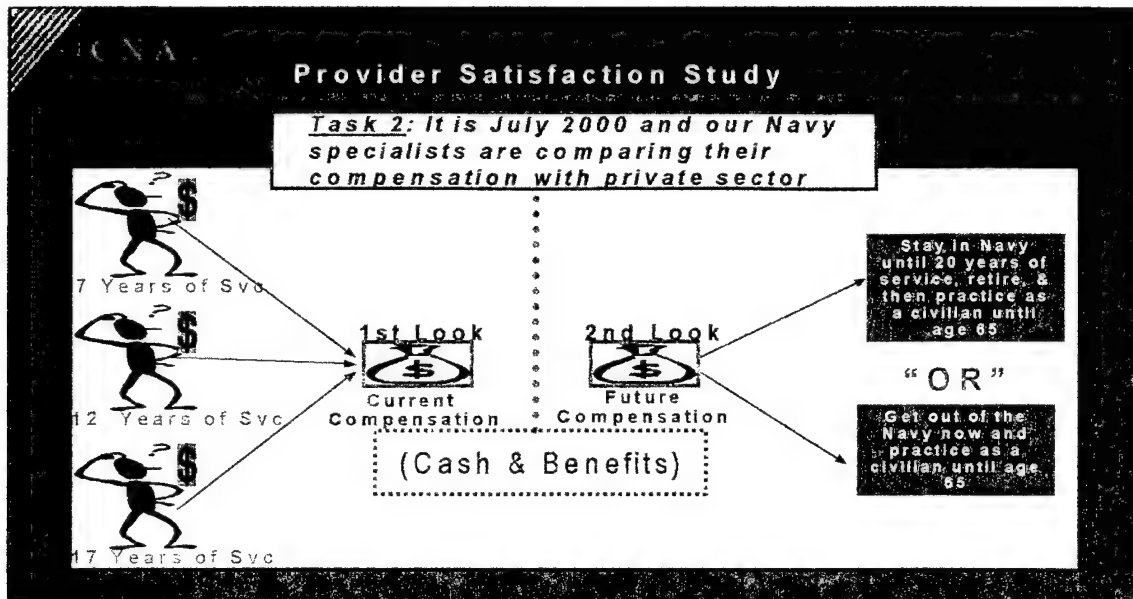
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Task 2: A Comparative Analysis of Navy and Private-Sector Compensation



DoD continually monitors the appropriate level of compensation for individuals serving in the military. This issue is particularly important for military physicians because accessing and training them is expensive, and they have skills that are readily interchangeable with those in the private sector. As we have previously discussed, if compensation is perceived too low as compared to alternatives, medical officers may abandon the military for a private-sector career path. Conversely, total compensation should be no higher than the amount required to attract and retain a quality force.

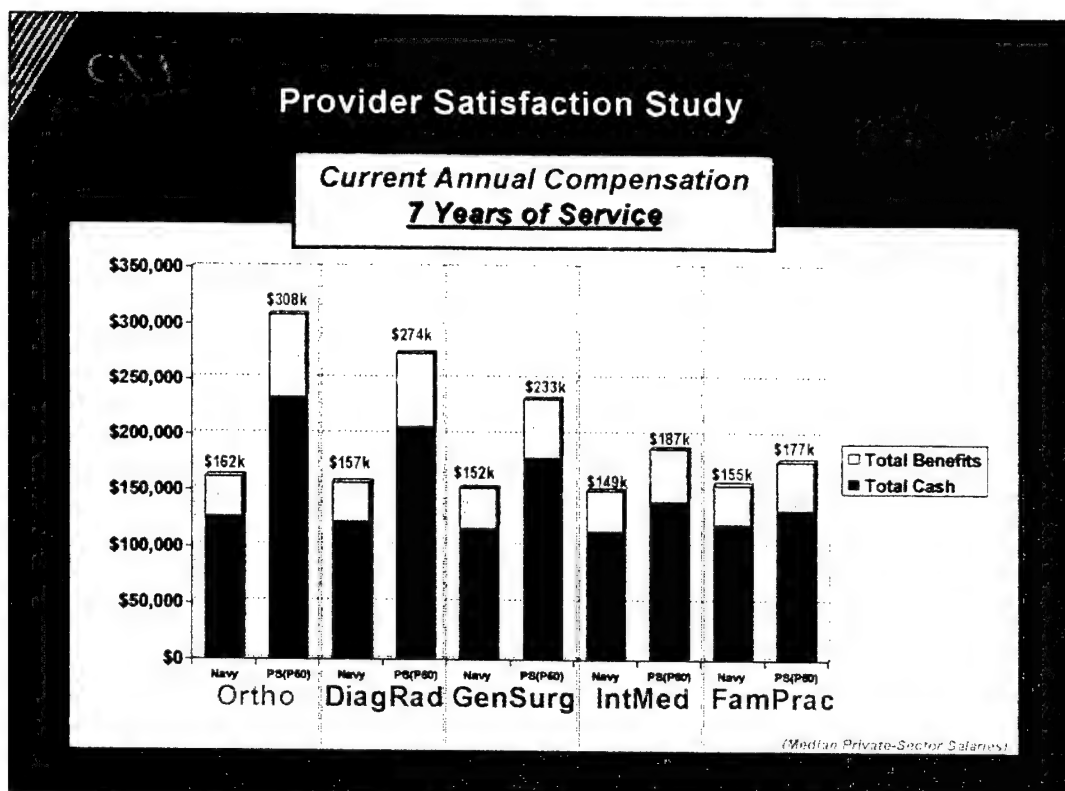
Because the vast majority of Navy physicians interviewed perceive that their incomes are well below those of their civilian counterparts, we developed a model, in conjunction with The Hay Group, comparing total compensation (salary, special and incentive pays, pension, and other benefits) for 24 physician specialties at the completion of 7, 12, and 17 years of service (YOS). For each of these specialties, we present a series of compensation comparisons that reflect two different methodological approaches for making compensation comparisons, based on the "most typical" Navy physician career path. The model adopts an accession, career, and training profile typical of most Navy physicians. Appendix C contains a brief overview of the assumptions, methodology, benefit calculations, and findings that were used to derive these calculations. An August 2000 CNA document (CIM D0002053.A1—*Comparison of Navy and Private-Sector Physicians' Total Compensation, by Medical Specialty*) provides a detailed description of the entire compensation analysis and findings.



The first type of comparison takes a Navy physician's compensation (total value of current cash and benefits) as of July 2000 and compares it to the compensation of his or her civilian equivalent. By civilian equivalent, we mean a physician of the same specialization with equivalent years of practice as a fully trained specialist working in the private sector. We refer to this as a cross-sectional comparison. We have calculated cross-sectional compensation comparisons for Navy physicians who are at one of three decision points in their careers—completion of 7, 12, or 17 years of service. We present these cross-sectional comparisons because these data are often a compelling factor for many individuals faced with the decision to continue in their current career path or change course. For this reason, the cross-sectional comparisons may have a significant role in physician retention.

From an economic perspective, when faced with the decision to continue with a particular career path or choose another path, one should compare the stream of future cash and benefits of each option rather than look at just a single point in time. We typically make this type of comparison by looking at the present value of each compensation stream. Present value is a convenient way to compare two different income streams. It tells you what the value of a future stream of payments is worth if it were paid in one lump sum *today*.

Therefore, present-value compensation comparisons represent the second type of comparison presented in our study. We calculated the present value of the stream of future cash and benefits that a Navy physician could expect to receive by staying on active duty, or by separating at one of the same three career points (7, 12, and 17 years of service) and practicing in the private sector. The cross-sectional and present-value comparisons are presented for both median and 75th percentile private-sector data in the August 2000 CNA document (CIM D0002053.A1—of *Comparison of Navy and Private-Sector Physicians' Total Compensation, by Medical Specialty*). Our compensation comparisons reflect the lower end of the physician income spectrum because they do not capture salary data from civilian physicians working in private practice. Thus, we believe that our compensation comparisons may underestimate the potential compensation differential for those Navy physicians who choose to separate and have the option to join *select* private practices. For these individuals, the 75th percentile gives some indication of the upper-end possibilities within the private sector.



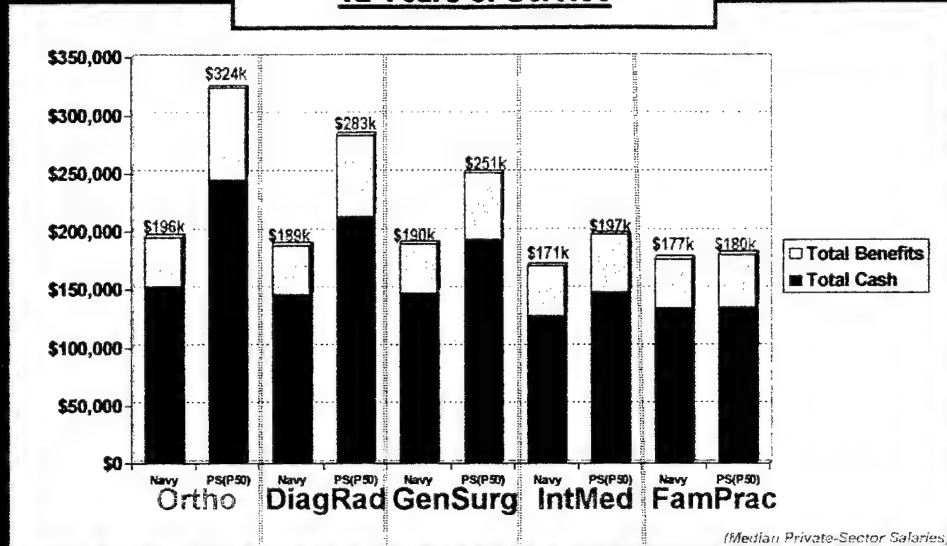
This chart depicts the current compensation (the sum of cash salary, special and incentive pays, and benefits) at 7 years of service, for five selected specialists. The results are congruent with recent findings reported by the American Medical Association that “surgeons and non-surgeons who do mostly procedures typically have higher incomes than primary care specialists, who provide mainly cognitive, or evaluation and management-type, services”[58].

Our findings confirm the Navy physicians’ perception that there is a pay gap between the military and private sectors. As illustrated in the chart above, Navy diagnostic radiologists make \$157,000, while their private-sector salaried peers receive \$274,000 at the 7-year-of-service juncture. We find that the military-civilian physician pay gap for over 75 percent of the specialties reported equals or exceeds 30 percent.

Figure 1, in appendix C, summarizes the current compensation results for the remaining specialties reported at this career juncture. The current compensation of uniformed services ranges from 12 percent below the median private sector for family practice to 48 percent below for orthopedic surgery at the 7-year-of-service juncture.

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Current Annual Compensation 12 Years of Service



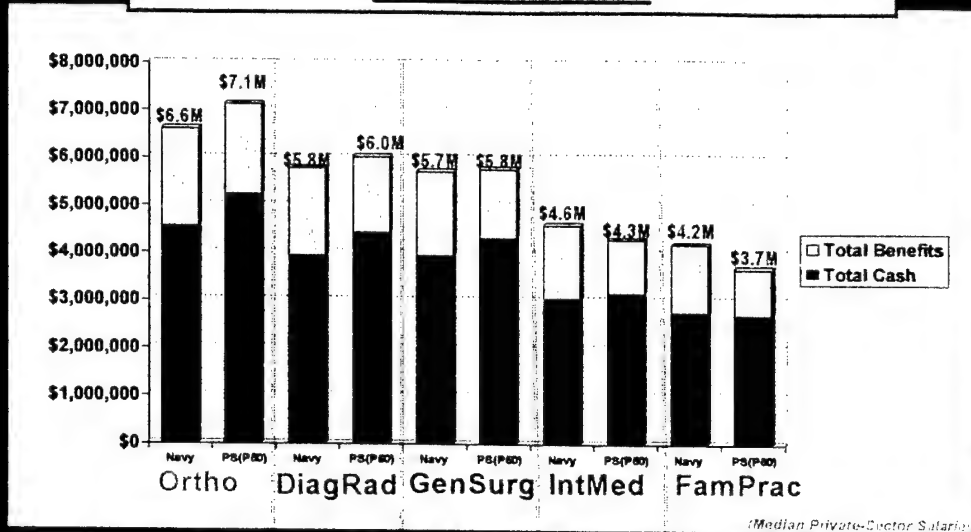
Our model reveals that pay gaps in current compensation tend to narrow with military career progression. However, for some specialties, a significant gap still exists. A Navy orthopedic surgeon at the 12-year-of-service juncture makes \$196,000, while his or her private-sector salaried equivalent makes \$324,000.

The results for all 24 specialties at the 12-year-career juncture are provided in figure 2 of appendix C. When we look at the current compensation at the 12-year-of-service point, the Navy uniformed services range from 2 percent below the median private sector for family practice to 40 percent below for orthopedic surgery. We find that the military-civilian physician pay gap for almost 42 percent of the specialties reported equals or exceeds 30 percent.

The vast majority of Navy physicians interviewed used articles in professional medical journals to compare their current military income with that of the private sector. The types of income reported in these journals usually contain only current cash and benefits. We did not find that Navy physicians, particularly junior officers, placed a high value on their Navy benefits. However, as a Navy physician nears retirement or has a "special medical needs" child, he or she placed a much greater value on their pension or healthcare benefits.

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Present Value of Future Compensation & Benefits 12 Years of Service



The second type of compensation comparison in our study is the present-value comparison, which indicates the value of a future stream of payments if it were paid in one lump sum *today*. The graph above compares the present value of the stream of future cash and benefits that a Navy physician could expect to receive by staying on active duty until 20 years of completed service (from the 12-year-of-service juncture), retiring, and then practicing in the private sector until age 65 versus separating now and working in the private sector until age 65.

Our analysis shows that it is more lucrative for a Navy orthopedic surgeon with 12 years of service as of July 2000 to separate from the military today and work in the private sector as a salaried employee until age 65 than to stay in the Navy until 20 years of service, retire, and then work in the private sector until age 65. We also find that it is more lucrative for Navy internal medicine and family physician specialists to remain in the military until 20 years and then pursue a private-sector career track. However, the concept of present value of total compensation may be difficult for some to grasp, especially when a Navy physician reaches that initial decision point to stay in or leave the military.

Figure 3, in appendix C, provides the results for the other specialties. Our calculations show that the present value of the uniformed services career compensation option ranges from 13 percent above the median private sector for family practice to 7 percent below for orthopedic surgery. By the 17-year career point, we find that present value of total compensation is closer between the two groups and, as careers progress, actually favors completing a military career for all but one specialty, neurosurgery.

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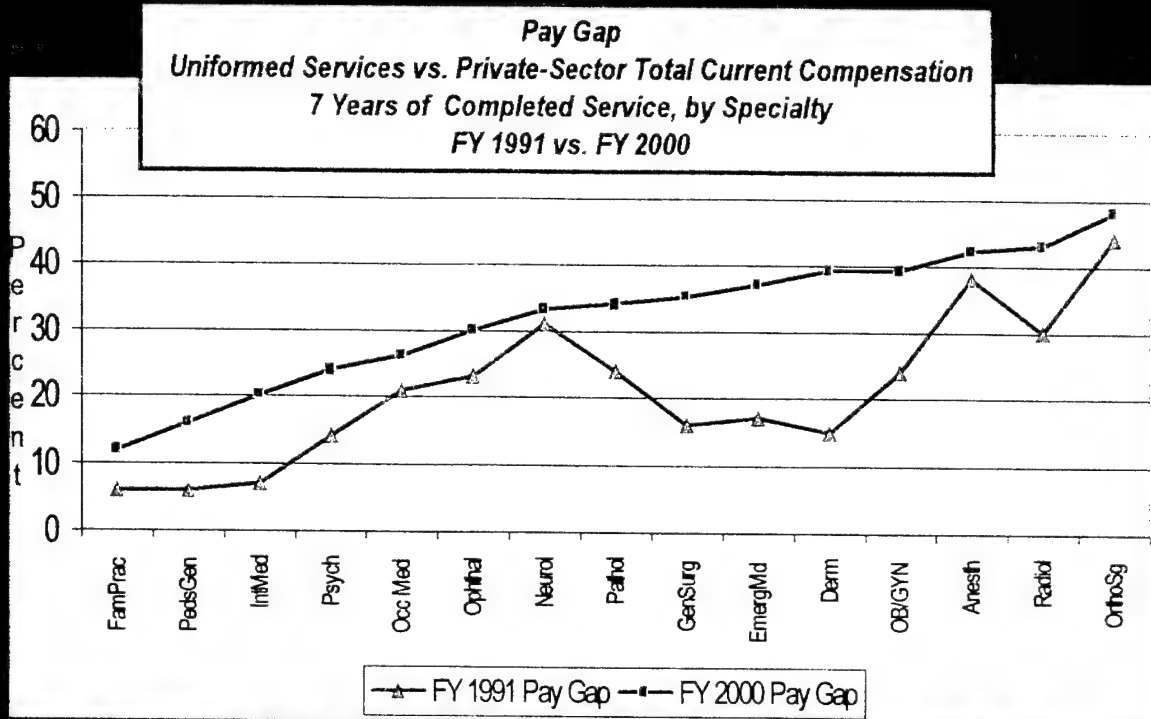
Task 2: Is the military-civilian physician pay gap widening? Yes

	Year of Svc	1991 Pay Gap Diff (%)	2000 Pay Gap Diff (%)	Difference
Ortho	Current 7	44 %	43 %	-1 %
	Current 12	43 %	40 %	-3 %
DiagRad	Current 7	30 %	43 %	-13 %
	Current 12	30 %	34 %	-4 %
GenSurg	Current 7	16 %	35 %	-19 %
	Current 12	19 %	26 %	-7 %
IntMed	Current 7	7 %	20 %	-13 %
	Current 12	2 %	14 %	-12 %
FamPrac	Current 7	6 %	12 %	-6 %
	Current 12	1 %	2 %	-1 %

Source 1991 Pay Gap Difference: Hay Group, *Total Compensation Comparison Uniformed Services Physicians vs. Private-Sector Physicians by Medical Specialty*, January 1992. (Based on 1991 data).

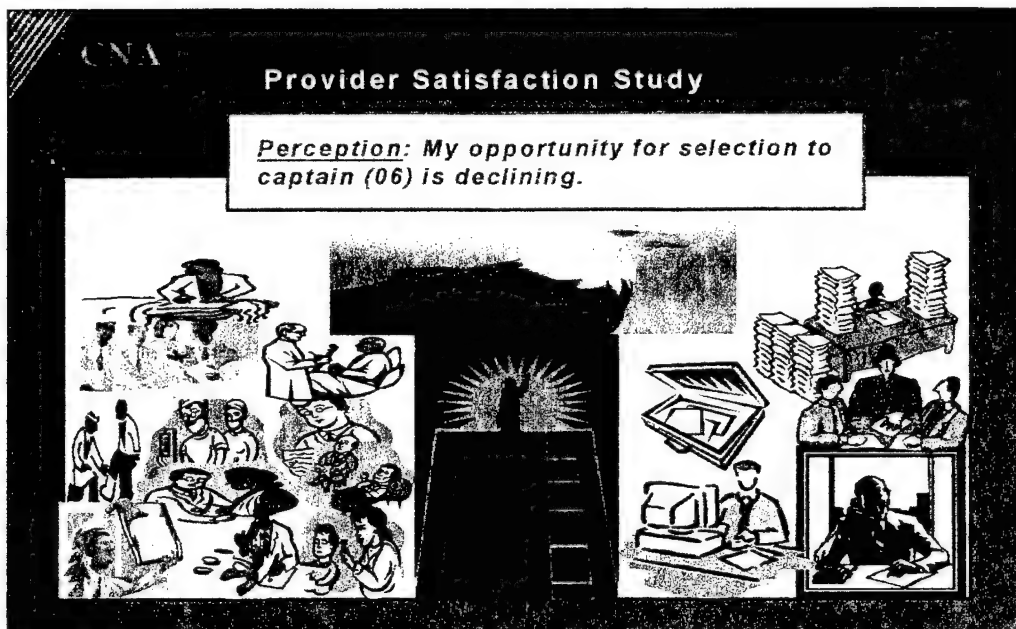
But has the military-civilian physician pay gap widened? From the above chart, one can see that in most cases the pay gap has worsened over time (a negative value in the green column represents a decrease in Navy physician pay relative to a civilian's). We compared our compensation results to a 1991 Hay Group report comparing total compensation for physicians pursuing a uniformed service versus a private-sector career track [59]. By comparing the 1991 compensation report to our 2000 findings above, we find that the military-civilian physician pay gap has widened for all specialties, with the exception of orthopedics at the 12-year-of-service juncture, where the gap has decreased from 43 percent to 40 percent. Our analysis also shows that the compensation gap is continuing to widen at the 12-year-of-service juncture, but to a lesser degree. Once again, the widening varies by specialty.

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Conclusions

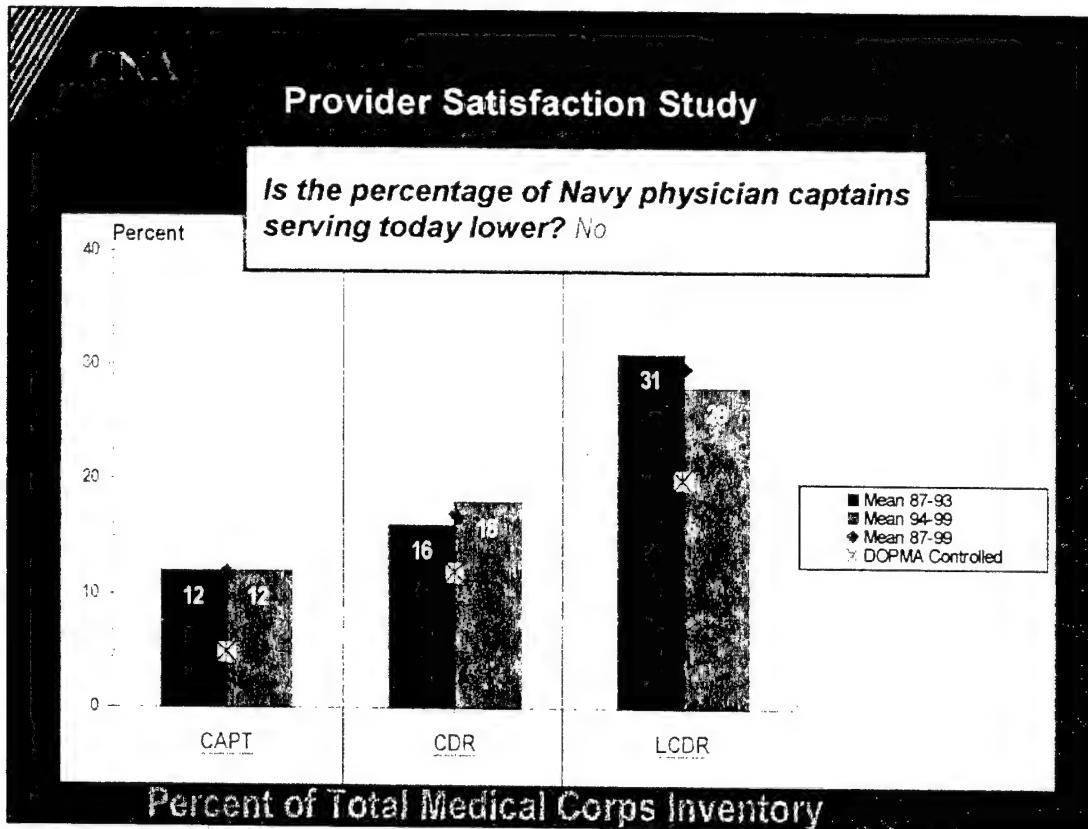
When we contrast our findings to the 1991 Hay Group report, for the specialties above, we find the military-civilian physician pay gap has widened by 4 to 24 percent during the 1990s (at the 7-year-of-service career point). In the chart above, we can see that the pay gap has widened the most for dermatology, emergency medicine, and general surgery. Although the pay gap has increased by only 4 percent for orthopedic surgery and anesthesiology, they remain two of the specialties with the highest overall pay gap.



As we have previously discussed, a number of important factors, in addition to compensation, play important roles in the decision of a Navy physician to remain in the military. As was noted in a 1988 Report to Congress on Armed Forces Health Special Pays, "For many (military) health care personnel, although pay is an important consideration, it becomes a significant source of dissatisfaction only when a non-competitive income must be added to a multiple of other dissatisfying factors" [60]. We have discussed the majority of these factors (e.g., work environment and business practices) earlier in this brief.

One of those factors is the belief held by many frontline Navy physicians that their opportunity for promotion to captain (06) has declined. Navy physicians feel increasing pressure to assume additional administrative and collateral duties to be competitive for promotion.

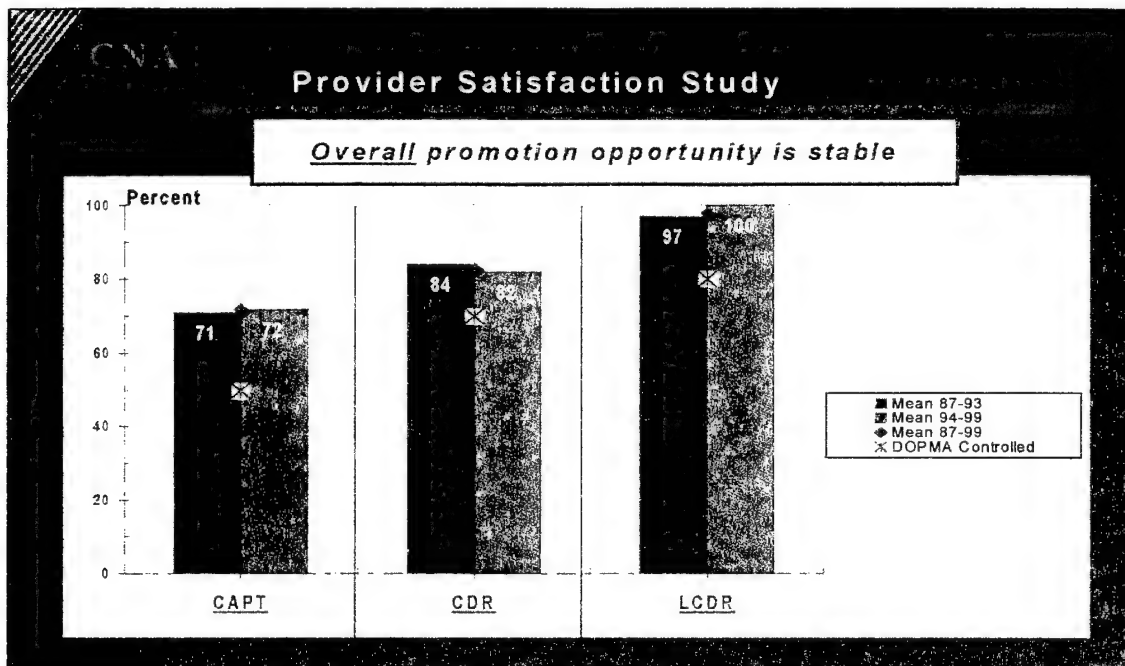
In 1980, Congress passed the Defense Officer Personnel Management Act (DOPMA), which stipulates the number of officers that can serve on active duty in pay grades 04 through 06. The act *excluded* medical and dental officers from the limitations so the services would have more flexibility in the management of these communities, in large measure due to the military-civilian physician pay gap. Selection for promotion (or non-selection) directly affects a military physician's compensation and influences the non-pecuniary factors affecting job satisfaction, such as recognition and respect for one's contributions.



We first examined whether the grade distribution for Navy physician captains (06), as a percentage of the entire Medical Corps' inventory, had significantly changed over time.

Our review shows that the percentage of Navy physician captains has remained constant over the past decade at about 12 percent of the total medical corps inventory.

The chart also illustrates how the Navy physician inventory, at the 06, 05, and 04 grades, exceeds the average allowable percentage of inventory constraints of DOPMA-constrained communities (which, on average, are 5 percent for 06, 12 percent for 05, and 20 percent for 04).



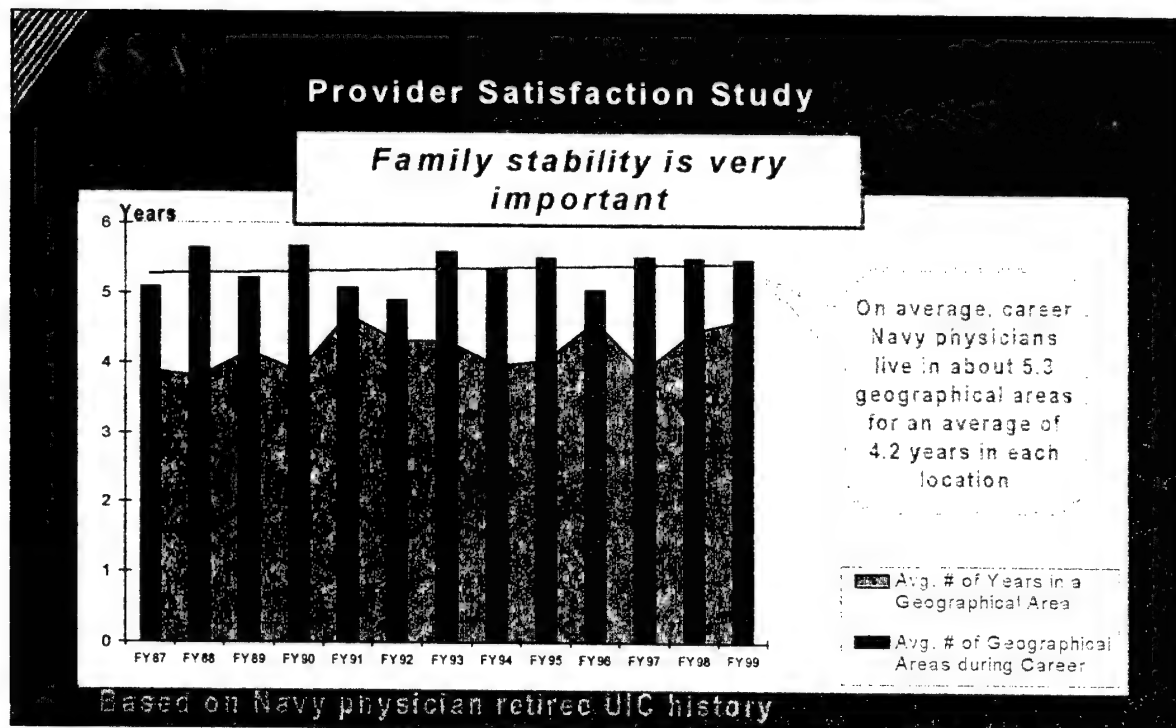
We then examined whether the "opportunity" for selection to 06 was declining for Navy physicians--that is, the likelihood of being selected for promotion to 06 when you become "in-zone."

Typically, a Navy physician entering active duty upon completion of medical school, without any break in active service, will be eligible for promotion to 06 within 18 years of service. Once again, medical and dental officers' promotion opportunities are excluded from DOPMA mandates imposed on other officer communities (which, on average, are 50 percent for 06, 70 percent for 05, and 80 percent for 04).

In general, we find that the overall promotion opportunity to 06 for Navy physicians has remained constant, about 70 percent. Although we find no evidence of a decline in the overall 06 selection opportunity, two important points must be made about this issue.

First, we were unable to discern whether the Navy physicians selected (or failed to be selected) for promotion to 06 were more or less involved with administrative and collateral duties than their peers. The types and number of collateral and administrative duties that are assigned to a particular officer at a local medical treatment facility are not contained in the Officer Master File.

Finally, although the overall promotion opportunity to 06 remains stable, the number of above-and below-zone selects each year has varied. For example, in FY99, the 06 Navy medical corps promotion opportunity was set at 70 percent, with 67 officers "in-zone." This meant 47 officers could be selected for promotion to 06. The selection board picked 13 officers "above zone" (those officers who had failed to be selected in previous years) and one individual "below-zone," so only 33 physicians (50 percent) were selected from "in-zone." We believe that much of the perception about declining promotion opportunity emanates from the selection board behavior versus actual personnel policy changes.

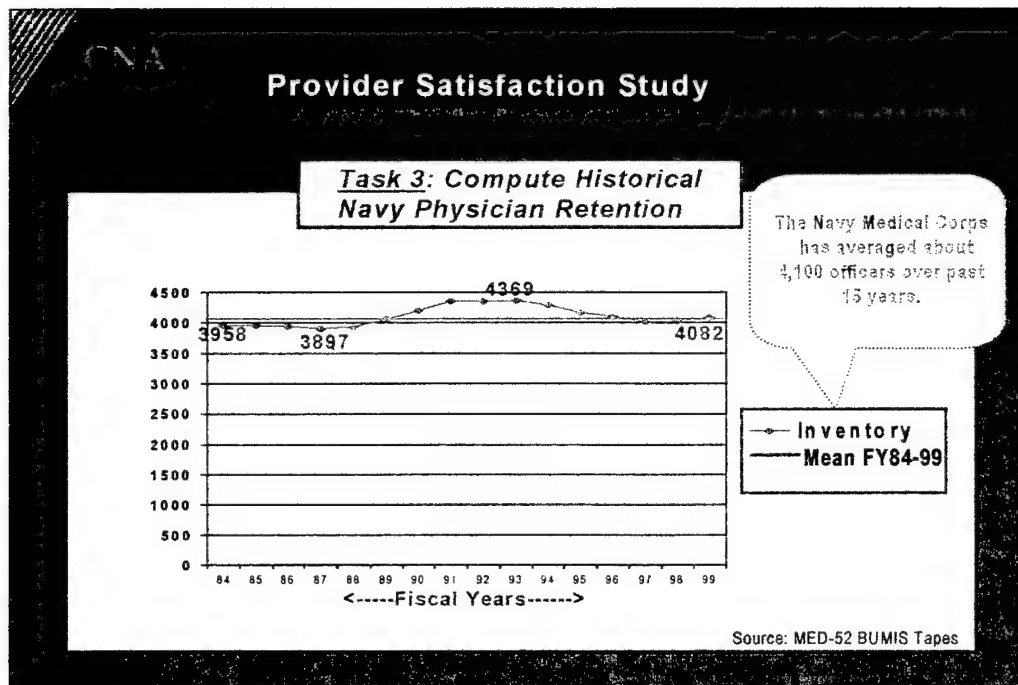


The risk of a permanent change of station or deployment and its effect on family stability and career path are not issues in the civilian world—but a very common concern voiced by the Navy physicians interviewed. Spousal and family satisfaction with the status and image of the MHS in particular, and the Navy in general, are important issues regarding job satisfaction [60]. Navy physicians, like many professionals, are balancing their own career opportunities between the needs and priorities of a spouse's career, and the education and happiness of their children.

We examined the Unit Identification Code (UIC) history of Navy physician retirees to determine the average number of geographical areas they lived in during their naval career, as well as the average time spent in each geographical location. When we look at the data above, we find that the time spent in a geographical area has remained fairly constant. On average, a Navy physician careerist can expect to live in about five geographical areas for about four years in each location.

We also find that the demographics of the Navy Medical Corps are changing. Our analysis shows that physicians are being accessioned into the Navy at an older age. In 1984, the average age of a Navy AFHPSP direct accession was 27.4 years and USUHS graduates averaged 28.6 years. In 1999, the average age of Navy accessions from those two programs was 28.9 years for AFHPSP and 30.6 years for USUHS, respectively. Moreover, in 1984, a little over 11 percent of the Navy physicians were women. Today, about one-fifth of the Navy Medical Corps are female. We also find that, on average, 77 percent of the Navy Medical Corps today is married and over 55 percent of those married have one to three children. Available data reveal that about 7 percent of those married have military spouses.

We feel that the changing demographics of military physicians warrants further examination to help shed light on how to best develop career paths that meet the needs of the service while minimizing disruption to families at important junctures, such as the education of one's children.



We have identified job dissatisfiers and confirmed that a military-civilian pay gap does indeed exist and appears to be worsening for some specialists. Given this, the critical question becomes whether these factors are causing Navy physicians to leave the military at a greater rate than they historically have.

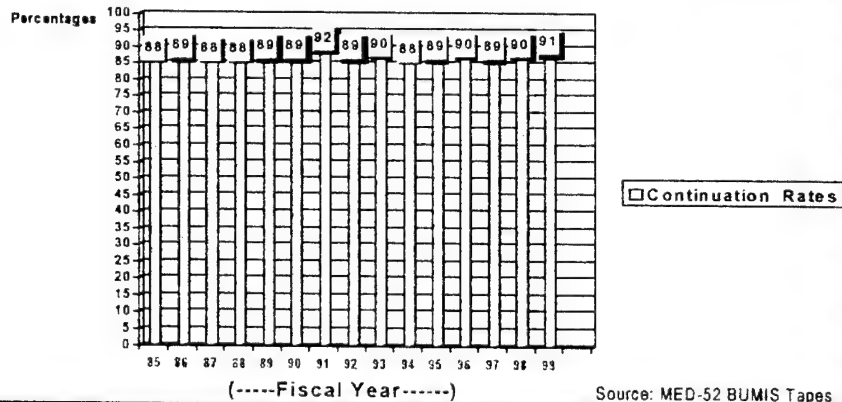
We obtained copies of the Bureau of Medicine and Surgery historical personnel tapes (BUMIS) because earlier work done by CNA [61, 62] identified BUMIS as the best database for Medical Corps issues. It contains information not found in the Officer Master File.

There are two basic types of manpower shortage problems [62]. The first is an insufficient number of personnel in the aggregate; the second is a mismatch between the jobs (billets) and personnel skills (trained specialists). The Navy Medical Corps does not appear to have an aggregate personnel shortage at this time, but it is experiencing difficulty achieving the required inventory levels for several specialties. Personnel shortages at the specialty level are usually the result of retention and accession problems but can also result from training output or assignment problems.

The purpose of this analysis is twofold. First, we want to determine whether Navy physicians are leaving the service at a greater rate than in previous years. And, second, we want to establish a historical baseline of Navy physician retention patterns, by specialty, to help policy-makers better direct their efforts in achieving desired specialty inventory levels. As the table above shows, the Navy Medical Corps inventory has stayed fairly constant between fiscal years 1984 and 1999, averaging about 4,100 officers. The most notable growth occurred during the early 1990s followed by a deliberate downsizing of the force beginning in FY94.

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Task 3: Historical Continuation Rates of Navy Physicians



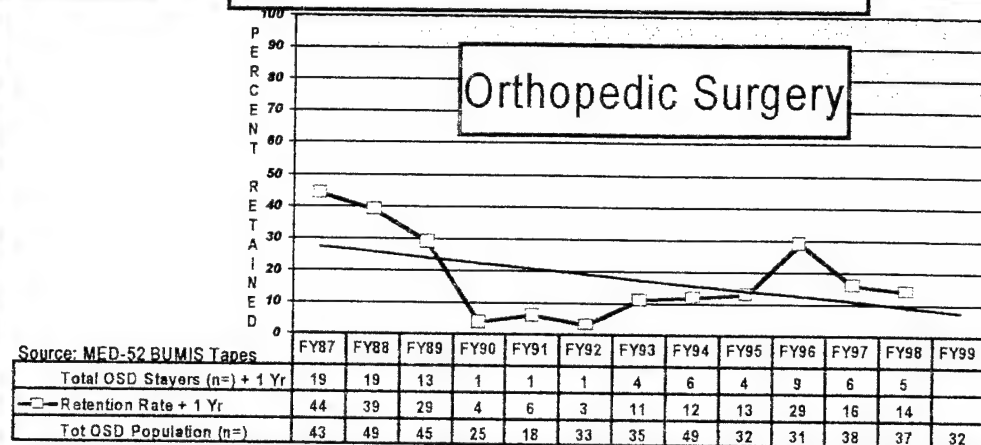
The Navy routinely monitors continuation rates for each officer community to help detect a decline (or increase) in its officers' retention behavior and to project end strength targets. The aggregate yearly continuation rate measures the percentage of officers on active duty at the beginning of a fiscal year who were still on active duty at the end of the fiscal year.

The graph above shows that the continuation rates for the Navy Medical Corps have remained relatively constant, but are trending slightly upward in FY98 and FY99. Unfortunately, aggregate continuation rates do not distinguish between voluntary and involuntary continuation. Because of their accession source and training track, Navy physicians can incur considerable active duty obligations, forcing them "to continue" on active duty. Because continuation rates measure the percentage of the entire inventory that is retained, ignoring obligation status, these rates can often mask potential retention problems, particularly at the specialty level.

In addition, DoD changed its minimum terms of service and active-duty obligation policy for Medical Corps officers in 1988 [63]. Prior to April 1988, in-house graduate medical education (i.e., residency and fellowships performed in a military treatment facility while on active duty) was obligation neutral, with only a 2-year minimum service requirement. Afterward, in-house graduate medical education incurred a year-for-year obligation (served concurrently with any obligation for medical school subsidization). Therefore, we are not surprised that overall physician continuation rates are trending upward since the main intent of this policy was to increase the involuntary obligation time served by active-duty medical officers in return for training.

Provider Satisfaction Study

Task 3: So what indicator should be monitored? Answer: Retention Rates



Total Unobligated Retention Rate (+ 1 Year)

Methodology. Since continuation rates often mask the retention behavior for a particular specialty because it includes all obligated physicians, we developed a way to isolate those Navy specialists who could stay in or leave the Navy. By using the end-of-year BUMIS tapes, we were able to isolate fully trained specialists by rejecting individuals serving in intern, residency, and fellowship training; general medical officer (including flight surgeons and undersea medicine); and executive medicine positions each year. Once we isolated only fully trained specialists, we used the obligated service date (OSD) field contained in BUMIS to identify those physicians who could stay in or leave the Navy. The OSD is the date on which the physician's most recent obligation ends. If the OSD falls before or during a given fiscal year, the physician belongs in the unobligated category. Because many military physicians' obligations expire in the late summer, but they may not technically separate from the service until the following fiscal year (due to earned leave or permanent change of station location, etc.), the retention rate is calculated as the percentage of unobligated physicians who remain on active duty at the end of the following fiscal year (retention rate + 1 year). Based on previous CNA work, using the retention rate + 1 year, we can better determine whether the individual intended to stay or leave the service in the year his or her OSD actually expired [64].

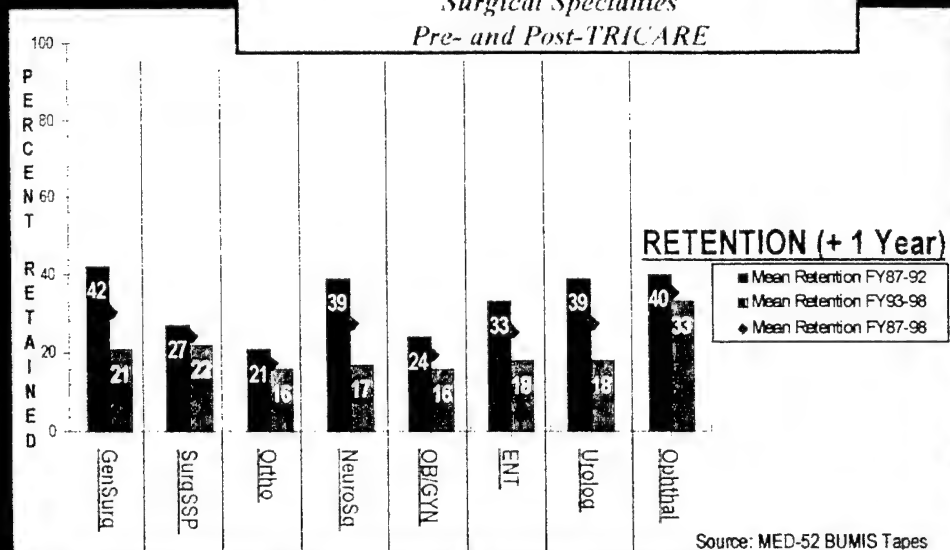
Example. As the chart above shows, in FY87, 43 active-duty orthopedic surgeons (Tot OSD Population (n=)) were eligible to separate from the Navy (i.e., their BUMIS OSD(1) field was 8709 or less). They could stay in or leave the Navy. The Retention Rate + 1 Yr reveals that, by the end of FY88, 44 percent chose to remain in the Navy. The Total OSD Stayers (n=) + 1 Yr of the original pool of 43 was 19; 19/43 gives you a FY87 + 1 year retention rate of 44 percent. The same methodology is used for each FY. We will be computing the FY99 +1 year retention rates upon receipt of the FY 2000 BUMIS tape.

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Task 3: Total Unobligated Retention Rate

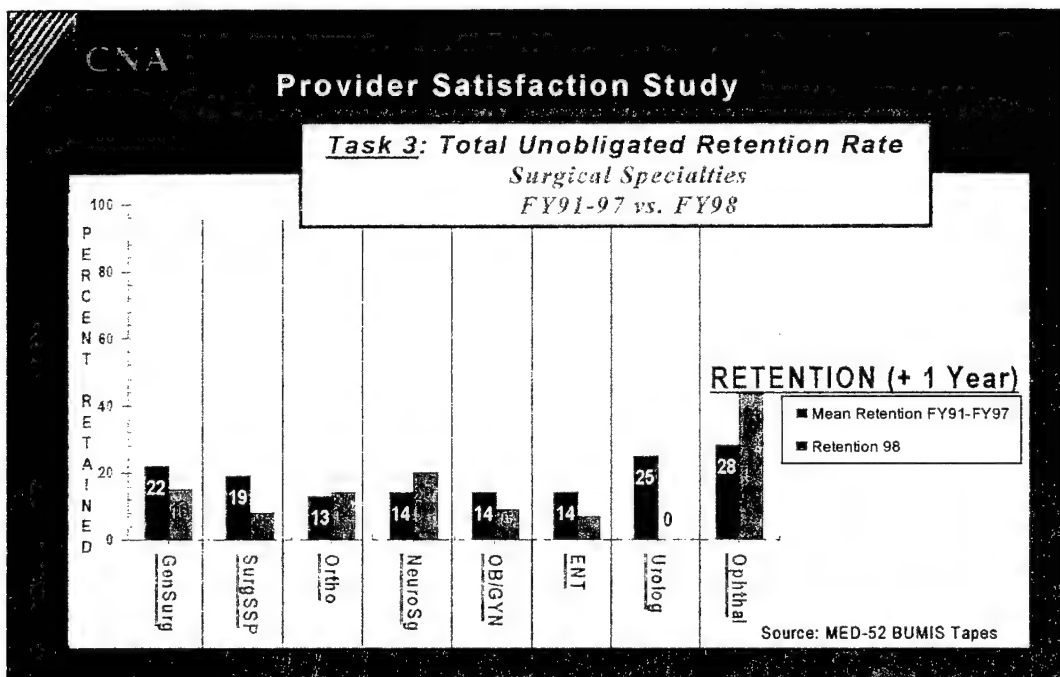
Surgical Specialties

Pre- and Post-TRICARE



Based on the methodology described on the previous page, we developed retention rates for the major specialties within the Navy Medical Corps. Our retention results are summarized by three major groupings: surgical, evaluation and management, and ancillary specialties. We first collated the results into two time periods, FY87-92 (Pre-TRICARE) and FY93-98 (Post-TRICARE), in an attempt to determine whether physician retention has fallen as a result of TRICARE.

On the chart above, we display all surgical specialties. Our analysis shows that retention for surgical specialties has declined in the past 6 years contrasted to FY87-FY92. Because the population size for some specialties is so small, we combined all surgical subspecialties (colon and rectal, plastic surgery, etc.) into one category called "SurgSSP." The mean retention for the eight surgical specialties shown above combined from FY87 to FY92 was 33 percent, contrasted to 20 percent for the past 6 years--a nearly 40-percent fall in retention for these specialties. We find that a similar pattern of declining retention rates exists for evaluation and management, and ancillary specialties when comparing the same time periods. However, the implementation of multiyear special pay (MSP) plans and the deliberate downsizing of the force in the 1990s makes the comparison of retention data between the 1980s and 1990s tenuous.

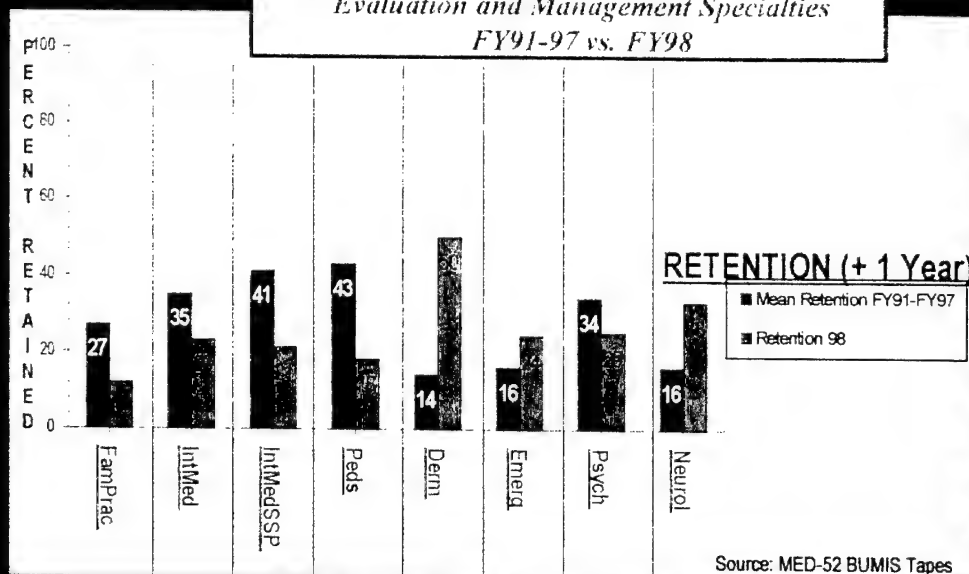


Before MSP was enacted, military specialists could only obligate themselves year to year through incentive special pay contracts. Although a portion of these physicians always intended to stay in the service until retirement, they could only “re-obligate” on a yearly basis. The MSP program allows (and provides financial incentives to) some specialists to sign 2-, 3-, or 4-year contracts. Consequently, physicians who plan to stay in the military can now sign extended contracts—potentially changing the pool of remaining unobligated physicians to those individuals who have a higher probability of separating. In addition, in FY94 the Navy deliberately began downsizing its physician workforce to meet its current end strength. The possibility exists that certain Navy specialists were not encouraged to remain in the service so inventory targets could be reached—possibly decreasing the retention rates in that time period as well.

On the chart above, we again display all surgical specialties together but only focus on retention in the 1990’s in an attempt to assess the most recent retention trends. We find that retention for the majority of surgical specialties has declined in FY98 contrasted to FY91-97, but to a lesser extent than the previous slide shows, and for some specialties the trend is reversed. It should also be noted that population size for some specialties is also low for one year. For instance, although neurosurgery shows a 20-percent retention rate in FY98, there were only five physicians eligible to separate in FY98 and by FY99. One chose to stay and four chose to separate from the military. The mean retention for the eight surgical specialties shown above combined from FY91 to FY97 was about 19 percent, contrasted to 14.6 percent in FY98 alone--a 2-percent fall in retention for these specialties.

Provider Satisfaction Study

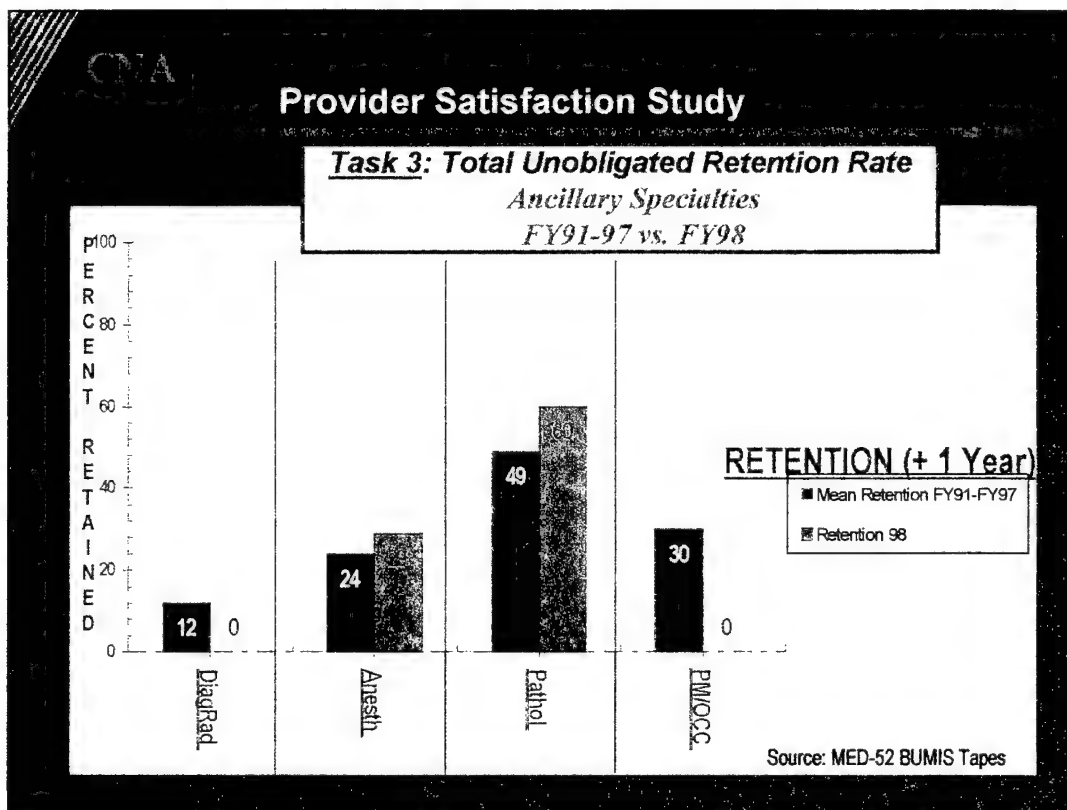
Task 3: Total Unobligated Retention Rate Evaluation and Management Specialties FY91-97 vs. FY98



The chart above shows retention for the eight specialties primarily involved with evaluating and managing patients. Because the population size for some specialties is so small, we combined all medical subspecialties (e.g., cardiology and gastroenterology) into one category called "IntMedSSP."

The data show that retention for about half of the evaluation and management specialties has declined in FY98 in contrast to FY91-97. It should also be noted that population size for some displayed specialties is also low for one year. For instance, although dermatology shows a 50-percent retention rate in FY98, there were only eight physicians eligible to separate in FY98; by FY99, four chose to stay and four chose to separate from the Navy.

The mean retention for the eight evaluation and management specialties shown above combined from FY91 to FY97 was 28 percent, contrasted to about 26 percent in FY98 alone, only a 7-percent fall in retention for these specialties. Our findings show that the overall the retention rates for these type of specialists is higher than their surgical counterparts with two major exceptions. Family Physicians experience lower retention than some of their surgical counterparts, and ophthalmologists enjoy a higher retention than some evaluation and management specialties.



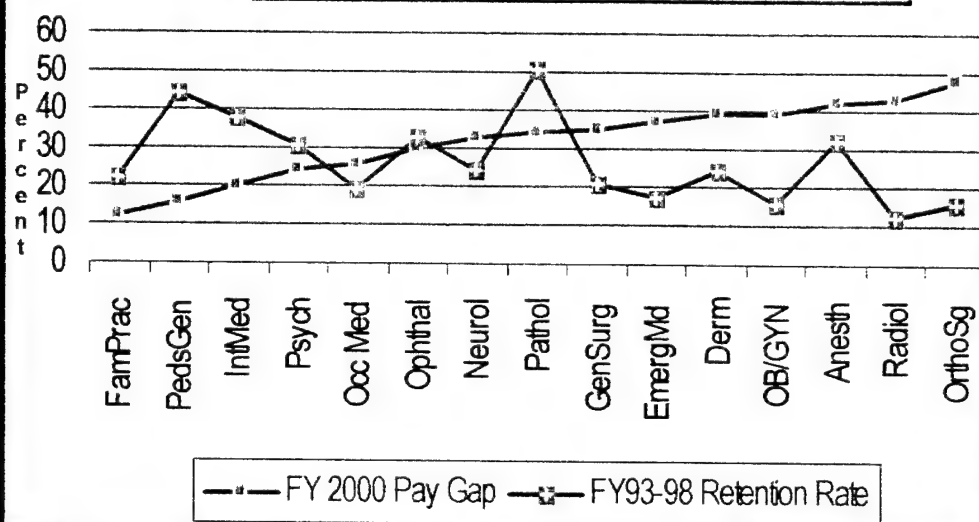
On the chart above, we display the remaining specialties under the title of ancillary. Our analysis shows that retention for the diagnostic radiology and preventive medicine/occupational health specialties has declined in FY98 contrasted to FY91-97, while anesthesiology and pathology improved. The retention rate pattern for radiology for the last six years is particularly concerning and warrants additional analysis.

Conclusions. Although analyzing total unobligated retention rates is a stronger tool than continuation rates when assessing military physician attrition behavior, the most preferred index to measure is "*end of initial obligation*" [62, 65-69]. In general terms, the end of the initial obligation represents a physician's first opportunity to leave the Navy.

Characterizing retention behavior at this milestone can help explain overall patterns and experience among Navy physicians, and it allows policy-makers to better adjust their special pays and management actions to achieve desired inventory levels. Available data did not support this type of analysis at this time, but the Bureau of Medicine and Surgery is Taking action to begin tracking this indicator in FY00. Moreover, as specialists become eligible for MSP contracts, the number of individuals who accept (and for how long) or decline these opportunities should be closely monitored because it appears to be an good indicator of possible attrition (and retention).

Provider Satisfaction Study

Does the Pay Gap Influence Navy Physician Retention?



When we compare the cross-sectional military-civilian pay gap differences for the available specialties above (at the 7-year-of-service career point) with the corresponding specialty-specific retention rates, we can see that overall the pay gap appears to be highest for those Navy specialists with the lowest retention rates. In particular, we note that two of the specialties with the widest civilian-military compensation gaps, orthopedics and diagnostic radiology, also experience the lowest retention at 16 and 12 percent, respectively.

Using aggregate data, we do find statistical evidence of a negative correlation between retention and the pay gap for the specialty groups shown above, excluding family practice and pathology. Because so many other variables affect retention decisions, a multivariate regression analysis at the individual physician level is required to fully understand the relationship between pay and retention (both the size and strength of the relationship). While the study timeline did not allow for this in-depth analysis at this time, we are currently taking action to explore this relationship in future analysis.

Provider Satisfaction Study

Conclusions

- Physician retention declining for many specialties
 - Index to measure retention is weak
- Military-civilian physician pay gap has widened
- The “entitlement” components for military physician pay haven't been reviewed in over a decade
 - Perceived devaluation of ASP, VSP, and BCP
- Leadership must develop a culture that reinforces retention every day

Navy physician retention is declining for many specialties, although the available index to measure the extent of this decline is currently weak. We have identified some potential driving factors as the source of this attrition, including a widening military-civilian physician pay gap, inefficient working conditions and business practices, and a general devaluation of clinical excellence. We feel that the factors affecting Navy physician job satisfaction are being exacerbated by the MHS's increasing emphasis on provider productivity and optimization, without a commensurate alignment of staff and resources to achieve those goals. One lesson learned from managed care in the civilian sector is the need for all those involved in the process to recognize that “administrative” and “clinical” decision-making are inextricably linked. This is also a key to TRICARE achieving its desired goals.

The “entitlement” components, with rates written in law, of military physician salaries (Variable Special Pay, Board Certification Pay, and Additional Special Pay) haven't been reviewed for almost a decade. There is a clear perception by many Navy physicians of a devaluation of compensation that could potentially affect retention and recruiting of not only physicians but other healthcare professionals into the military.

Moreover, the MHS must build and leverage a culture reflecting strong common core values that reinforce retention every day or, as one seasoned compensation expert has noted, “If leadership fails to cultivate this attitude –you just have a bunch of co-employed Workers” [70]. In parallel, data must be carefully maintained to consistently track retention trends and whether specialists are accepting or declining MSP contracts, when first eligible, as a potential signal to their career intentions and routinely reported to senior leadership.

Provider Satisfaction Study

Recommendations

- DoD policy-makers must empower its physician workforce without overwhelming them
- DoD and MTF commanders need to work more closely together to better align resources and provide incentives to military physicians to achieve desired outcomes
- DoD should evaluate its current military physician compensation package
 - Need to explore the relationship between the pay gap and retention

The first step for DoD policy-makers is to discern how to best empower physicians without overwhelming them so this portion of the medical department workforce can successfully navigate through the financial, managerial, and organizational issues associated with military medicine today. We also recommend that—because the pay gap is a significant factor in military physicians' dissatisfaction—DoD evaluate its current military physician compensation package in order to reduce the military-civilian pay gap. In addition, DoD should continue to explore the relationship between the pay gap and retention. Understanding this relationship will allow DoD to better design a military physician compensation package for those specialties that DoD projects it will have difficulty retaining and manning at desired force levels. Finally, we recommend that DoD policy-makers and MTF commanding officers continue to work closely together to better align their resources to achieve desired outcomes and continue to cultivate a workforce that is adaptable and competent in both wartime and peacetime benefit settings.

Provider Satisfaction Study

Recommendations (continued)

- Navy Medicine should evaluate community career tracks to align common goals and priorities
 - Each person serving in the medical department should contribute to enhanced productivity, optimization of resources, patient satisfaction, and quality outcomes
- BUMED must tackle the military-specific work environment issues affecting physician job satisfaction
- Greater emphasis needs to be placed on quality of personnel data
 - Establish and strictly follow protocols
 - Track and report initial and total unobligated retention rates annually
 - Track and report MSP contract activity annually

Navy Medicine, in particular, must evaluate the career tracks for all of its medical department communities to ensure that each Corps is aligned to meet common goals and priorities. To some extent, each person serving in military medicine should be expected to contribute to enhanced productivity, optimization of resources, patient satisfaction, and quality clinical outcomes (and rewarded and recognized for that behavior and contribution).

It is particularly important that BUMED tackle the military-specific work environment irritants currently affecting physician job satisfaction and retention because additional factors may be on the horizon as more managed care business practices (designed to manage physician practices) are imported into the daily operations of the MHS.

And lastly, BUMED must place greater emphasis on the quality of its personnel data. Protocols must be established and strictly followed to allow both initial and total obligated retention rates, by specialty and accession source, to be tracked and reported on at least an annual basis. In addition, the number of eligible physicians accepting (and for how what length) or declining MSP contracts should be closely tracked and reported at least annually. BUMED has already begun to improve BUMIS data and to track these indicators.

Appendix A: Factors Affecting Navy Physician Job Satisfaction

This appendix provides additional detail on the information we collected from Navy physicians to determine their perceptions of the key determinants of job satisfaction/dissatisfaction. We consulted with subject matter experts involved with managing the Navy Medical Corps to gather their insights about the major issues facing Navy physicians. We also reviewed previous CNA and other federal research regarding military physician satisfaction, attended several national specialty conferences, and made site visits to and conducted video and teleconferences with Navy medical treatment facilities to interview Navy physicians (more than 300 physicians participated in the interview sessions). In addition, we reviewed the 1999 Specialty Leader Reports to provide a more global perspective and identify trends affecting the Navy physicians across specialties.

Insufficient Monetary Compensation. Navy physicians perceive that their income is below that of their civilian counterparts and continuing to fall further behind. As the managed care market has stabilized, civilian medical groups are offering higher salaries, bonuses, and perks that the Navy has not matched. Civilian peers are viewed as having a higher income and a more stable work and family environment because they are not subject to the risk of deployment. With PPO plans continuing to increase and the health maintenance organizations' (HMOs) "gatekeeper" and referral rules beginning to ease, the demand for specialists is higher and the salary gap has become more visible.

The increase in civilian contracting has also brought attention to the compensation difference. As Navy physicians work side by side with their civilian counterparts, the income disparities are exacerbated. Navy physicians believe that they are working longer hours, have the risk of deployment, and are making less money.

Most Navy physicians noted that the variable and additional special pays have not been increased in several years. In addition, they feel that many military medical treatment facility (MTF) and Bureau of Medicine and Surgery personnel are not knowledgeable about Navy special pay programs, a situation that results in confusion and lengthy delays to obtain correct pay.

Inadequate Administrative and Technical Support. Navy physicians believe that the lack of qualified and well-trained support staff is having a negative effect on efficiency and potentially on the quality of care. Nurses and corpsmen are allowed to leave the patient care tracks too early in their careers. Experienced medical personnel are needed in the clinics, in operating rooms, and in ancillary positions. Physicians also commented on lack of control over personnel and their inability to replace poor performers. Physicians are concerned that constant staff rotation and temporary assignments will jeopardize patient care. They are particularly irritated about this lack of support when there is such emphasis from Headquarters to "optimize" their clinic operations.

Clinic managers who are qualified, knowledgeable professionals are needed to manage the clinic operations. Too often, physicians are spending time with appointments, reports, and maintenance of exam rooms and coordination of clinic activities. The physicians believe that productivity, efficiency, and quality can be improved if a professional manages these routine clinic duties.

Appendix A

Common Procedural Terminology (CPT) coders are also needed to code procedures accurately and efficiently. Some physicians have been coding services and readily admit that they do not perform this activity efficiently. Physicians are taken away from patient care to perform duties that are clerical. Because the coding is a key component of reporting, which might be used to determine future manpower strategy, it should be accurate and timely.

The physicians also commented on the inexperience of appointment clerks. Appointment clerks have insufficient clinic knowledge and appointing experience and are often unable to determine what type of appointment slot the patient requires. As more MTFs convert to centralized appointing, this has become a bigger concern. Centralized appointment clerks are often not aware of unique specialty and clinic requirements. Patients are scheduled with too much time or not enough and the physician cannot deliver efficient care.

Adequate equipment was noted as a concern. Some equipment was broken or was so old it was useless or potentially dangerous. Physicians are frustrated by the inability to quickly replace or repair equipment. Again, there is a potential negative effect on quality of care.

Devaluation of Clinical Excellence. The perception of increasing pressure to assume additional administrative and collateral duties in order to be competitive for promotion frustrates many Navy physicians. The physicians are angry that Command fitness report rankings and selection boards do not give equal credit for high-quality clinical skills. Physicians have become disillusioned with the low weighting given clinical productivity and quality performance on Command fitness reports. They are also concerned that some quality clinical physicians, who provide direct patient care, are not being promoted to Captain and, therefore, cannot assume lead positions in teaching programs.

The emphasis on administrative duties as a required component to achieve promotion has negatively affected job satisfaction. Physicians who want to focus on patient care believe that their promotional opportunities and, therefore, their compensation are limited. This has led some Navy physicians to consider civilian positions.

Poor Business Practices. Physicians believe that the leadership has no clear vision of the objectives. They perceive that the goals and priorities are inconsistent and do not support the efficient operation of the clinical environment. Number of patients per physician has been established as a goal, but physicians do not believe they have been enabled to achieve the goal. Physicians are concerned that support staff is inadequate and poorly trained and that exam rooms and office space are insufficient. Productivity goals cannot be achieved in the current environment unless support is provided to make the operations more efficient.

The health-care teams in the MTFs and clinics (physicians, nurses, MSC officers, corpsmen, enlisted and civilian staff) are not working toward common goals and are not being held accountable for the team performance. Too much individual community stove-piping is occurring at the activity level. Individuals are pursuing objectives that do not support improvements to the clinical environment, productivity, quality of care, and patient satisfaction. Physicians believe that leadership tolerates administrative mismanagement.

Navy physicians have been asked to model or validate their business areas, but they feel that the tools to evaluate the status of the operations have not been provided. They also believe that those serving in

executive medicine billets should perform these budgeting and planning functions. Physicians think that reports do not provide enough information or the relevant data needed for planning, decision-making, or improving clinical outcomes. Information systems are perceived as a club, not a planning tool. Operational funding is often delayed at the DoD level. The perception is that, despite adequate justification for additional dollars, funding requests are neither approved in a timely fashion nor allocated appropriately.

The erosion of the patient/physician relationship is a growing concern to Navy physicians. Patients angry over local MTF or TRICARE policies usually take their frustration out on their physicians. Issues can involve patient scheduling, patient acuity, specialty access, or MTF parking. The physicians feel that they have little or no control to solve these problems.

Decreasing Professional Growth Opportunities/Career Issues. There is a perception that training/fellowship opportunities are decreasing. Most physicians were not satisfied with the funding for annual continuing medical education (CME) activities. Physicians commented that funding either wasn't available or was inadequate, requiring out-of-pocket expenses.

Physicians believe that the personnel planning process is shortsighted. They are often frustrated by the detailing process, which they believe is not based on a "Corps" philosophy. Physicians also noted that there are no formalized homesteading policies in the Fleet Concentration Areas. Most senior physicians stated that family stability was a key factor in their job satisfaction and their decision to remain in the Navy. The risk of deployment, as physicians attempt to balance dual careers and put kids through school, is a common concern.

Navy physicians believe that there is no clear delineation of a career path for each specialty. Nor is there a formal mentoring program for junior physicians. There also seems to be a lack of understanding that junior Navy physicians are more motivated by quality-of-life issues.

Lack of Recognition and Value of Physician Contributions. Some physicians believe that certain senior DOD and Navy leaders do not appreciate the intellect, hard work, and perseverance it takes to become a physician. Navy physicians are not treated with the respect their profession and rank deserves. Inadequate CME funding was given as an example.

Navy Medicine does not publicize or inform the military community of the outstanding qualifications of Navy physicians. Some civilian medical groups, such as Kaiser, market their physician networks and the credentials of their physicians. This type of publicity increases patient satisfaction and physician satisfaction. Patients become more aware of their physician community and more confident that their physicians are well trained and qualified. Physicians, in turn, are more satisfied because they are treated with respect and valued for their knowledge. Most physicians were also dissatisfied with the lack of recognition given to clinical excellence within the Corps. Clinical excellence is rarely recognized through the personal awards program.

Appendix B: Factors Affecting Civilian Physician Job Satisfaction in a Managed Care Environment

Overview

This appendix provides an amplified overview of the major themes affecting civilian physician job satisfaction within a managed care environment that we discovered during the literature review. This step was crucial in placing the issues influencing Navy physician job satisfaction into context and distinguishing "military unique" factors from "managed care." We compare Navy physician job dissatisfiers with those issues most commonly found among civilian providers in a managed care environment. The Denison Memorial Library, University of Colorado Health Sciences Center, was contracted to perform a data search of the Medline and HealthStar databases. The data search selected over 85 documents published between 1997 and 2000 that addressed physician job satisfaction in a managed care environment. Internet searches identified more literature. Also included in this appendix is a brief synopsis of some of the most relevant references that were used in this research to identify the effect managed care has had on physician job satisfaction.

The following issues and concerns were identified in the literature review of civilian physician satisfaction in a managed care environment.

Loss of Autonomy. The perceived loss of autonomy is reflected in all the studies. Physicians believe they have less freedom to make clinical decisions. Authorization for services and referrals to specialists must be reviewed and approved by a third party prior to care. In the managed care environment, a non-physician usually makes these treatment decisions. Many physicians conclude that they are being "second guessed" by clerical staffs that do not have the medical education or knowledge of the patient. Physicians believe that their reduced decision-making role negatively affects the quality of care and their relationship with patients. Physicians are frustrated when they cannot choose the specialist they prefer for a patient or are limited by third-party decisions to less expensive tests. These restrictions may compromise the quality of care. Delays in treatment and referral approval have caused anxiety for the patient, and the patient often views these delays as being within the physicians' control. Both primary care physicians and specialists feel that their diminished authority is the biggest challenge in the changing health-care market.

The inability to control work schedules, workload, and practice decisions has also been associated with the turnover of primary care physicians. Physician involvement in managerial decisions and policy is positively associated with satisfaction. Negotiations through local and national associations, the forming of group practice and management organizations, and integration with hospitals are cited as attempts to regain control over practices.

Loss of Income. Income is affected through the different reimbursement contracting imposed on physicians. Capitation arrangements and low third-party fee-for-service payments have reduced income for

Appendix B

some practices. Physicians under capitation arrangements have felt compelled to increase patient load to accommodate low reimbursement rates and control risk. Physicians must keep track of different health plan rules, requirements, and the associated reimbursement schemes. The cost of managing a practice has increased because health plan rules change frequently and patients change their health plans

frequently. The cost of additional office staff and overhead to manage the increased administrative work associated with these changes has had a negative impact on practice income.

Specialists' income appears to be negatively affected by the "gatekeeper" role of the primary physician and the third party. In an effort to control costs, managed care organizations have emphasized tighter management of subspecialty services through service authorizations and referrals. These limits have resulted in a reduction of specialists' patient visits and, therefore, have been viewed by many managed care organizations as effective cost controls. Recently, with the relaxing of referral restrictions and the increase of preferred provider organizations (PPOs) in the market, specialists are experiencing an increase in demand and income.

Increased Administrative Burden. Physicians typically associate with several health plans. A 1995 Commonwealth Fund/Harris poll found that 90 percent of physicians care for patients who are covered by managed care plans, and more than half of all physicians participate in five or more plans. Each managed care plan has its own set of practice guidelines and utilization rules, which change frequently. Plans have different labs that are approved, different authorization rules, different referral rules, and unique drug formularies. All these differences have increased the administrative work and require more coordination with the patients, physicians, and third parties before treatment. The result is additional office staffing to handle the paperwork and telephone calls. Often, the result is also confusion on the part of the patient and the physician regarding what services are covered in a health plan.

The different contracting arrangements associated with the managed care plans have also increased the administrative burden. Under managed care contracts, physicians can be at risk for certain services and not at risk for others. These different arrangements require additional staff and time to track and reconcile practice income. For example, under one contract, all outpatient services might be capitated. Under another contract, visits might be capitated but lab services paid as fee for service. The same situation exists for specialist services. Specialists' visits can be included in the primary care physician's monthly capitation or paid outside the capitation rate as fee for service. Each health plan can be different and contain different options. With large employers acting as the health care purchaser, the variations in managed care plans can be unique to the employee group. The variety of arrangements is limited only by the imagination.

Keeping track of the health plan benefit variations and the reimbursement schemes can be a daunting task for the physician and the patient. The administrative burden is a significant factor contributing to physician dissatisfaction with managed care.

Negative Effect on Physician/Patient Relationship. Physicians complain that relationships with patients are negatively affected in the managed care environment. Lack of time to spend with patients due to increases in patient workload frustrates the patient and the physician. In addition, treatment decisions made by non-physicians tend to erode the patient's confidence in the physician. Untrusting and impatient patients also contribute to physician dissatisfaction. Some patients believe that physicians are practicing

only for the money and that services are not ordered to maximize income. Physicians, on the other hand, are frustrated with patients who are impatient with the administrative mechanics of managed care and with patients who believe they know more than their physicians about their illness.

The Colorado Medical Society confirmed these issues as contributors to physician dissatisfaction but did not attribute the issues to managed care alone. Some of the patient/physician relationship issues ascribed to managed care are the result of the general change in the medical and cultural environment. Patients have been forced to become better consumers of health care. In addition, patients have access to more information through media and the Internet and are more likely to self-diagnose. In today's environment, the physician is not always viewed as the ultimate professional authority.

Better communication between the health plan and the consumer is viewed as a means to improve the physician/patient relationship. A better-informed patient, with a good understanding of his or her health plan coverage, can improve the association between patient and physician. Informing health plan patients of the high quality of their physicians has also been recommended as a way to improve and strengthen the physician/patient relationship. Patients who view their network of physicians as highly trained and qualified are more satisfied with their physicians and more trusting of the relationship.

Breaks in Continuity of Care. Today, a change of primary care physician, due to the patient's coverage under a new health-care plan, is a common occurrence. To lower employer costs, employers frequently switch health-care plans. This type of change can happen on an annual basis and can often require the patient to select a new primary care physician.

Physicians also change their affiliation with health-care plans. They might participate with a health plan one year and not participate the next year. These affiliation changes are normally the result of changes in plan rules or issues with reimbursement. If the physician terminates participation with a health plan, the patient is forced to select a new primary care physician.

In the managed care environment, the patient population has become increasingly mobile. Physicians feel that they do not have the same close and satisfying relationships with their patients they did in prior years. Continually treating new patients and not being able to develop a long-term patient/physician relationship has been dissatisfying for some physicians. These types of changes occur more frequently in a managed care environment and tend to interrupt care and contribute to the increased paperwork as patients move from one physician to another.

Lack of treatment continuity is also cited as a negative factor affecting care quality. Frequent physician changes require patients to continually repeat history and symptoms. Physicians do not have the longevity with the patient, which can delay diagnosis. Healthcare plans also change their coverage. Services covered today might not be benefits of the healthcare plan next week. These changes can interrupt care and can contribute to the quality-of-care issues associated with treatment continuity.

Negative Effect on Quality of Care. Physicians believe that insurers' practice guidelines and utilization rules can often negatively affect the quality of care. Physicians cite delays in referral approvals, treatment authorizations, and treatment decisions by non-physicians as eroding quality. Limited access to specialists of choice and inability to order expensive tests and drugs of choice also contribute to the perception that care quality is compromised.

Physician management groups have also implemented utilization guidelines and practice cost controls with results tied to monetary incentives. There is a perception, implied and voiced by some physicians, that the emphasis on cost control and utilization leads to "cutting corners" on treatment.

Major References Used in Determining Civilian Physician Job Satisfaction

[8] Warren et al. collected data from a mailed survey of 510 Arizona physicians. Most physicians considered themselves satisfied. The study did not find a higher satisfaction rate for primary care physicians over specialists. Physician satisfaction was significantly and negatively correlated to physicians' perceptions of loss of control over work conditions and clinical autonomy. The strongest relationship to dissatisfaction was not being paid what one wanted for services rendered. Additional factors contributing to low satisfaction were not being able to set work schedules, the need to sign managed care contracts to get patients, and the belief that third-party payers have considerable effect on how physicians treat their patients. The study found that physicians who do not write the orders for non-physicians have lower job satisfaction than those who do write such orders. Additionally, physicians who remain dominant in the division of labor retain their status as professionals even if some of the clinical autonomy is reduced. The study concludes that managed care will continue to limit clinical autonomy and control work conditions. Allowing physicians to play a larger role in setting clinical limits and providing better physician and patient education on the benefits of these clinical parameters may increase physician satisfaction. Contracts that link physician pay to patient outcome might be an ideal managed care scenario. Physicians who manage their care within the clinical parameters would be given the most clinical autonomy and reimbursement.

[9] Schulz et al. compare the results of 1986 and 1993 physician surveys in Dane County, Wisconsin, to determine whether physicians' satisfaction has changed as managed care has developed. Physicians appeared to be more supportive of HMOs in 1993 than in 1986. Primary care physicians were more supportive than the sub-specialists, but the difference was decreasing. Satisfaction with income was higher among primary care physicians in 1993, while pay satisfaction was lower for the subspecialties. Primary care physicians were also more satisfied than their sub-specialist counterparts with perceived clinical freedom, autonomy, and resources. Hospital-based specialists were the least satisfied. The gap between fee-for-service and HMO practice in terms of satisfaction narrowed between 1986 and 1993. However, physicians were still more satisfied with fee-for-service arrangements. The study concluded that income and clinical freedom are strong predictors of physician satisfaction.

[10] Warren et al. used data from a 1995 survey of Arizona physicians to examine the impact of managed care on physicians. The study found that physicians felt they had to sign managed care contracts to get new patients, and they perceived patients to have less confidence in them in a managed care environment. Physicians also believed that participation in managed care limited their clinical decision-making. Most physicians felt that managed care did not have an impact on testing, although more believe that managed care had decreased than increased testing. Less control over work schedule and less satisfaction with income were positively correlated to a high participation in managed care. The study suggests that satisfaction can be enhanced if physicians are given a greater role in decisions on work schedules, patient loads, income negotiations, and referral specialists. Physicians who participate in the development of clinical protocols will understand the basis of these protocols and be better able to support them.

Appendix B

[11] McMurray et al. examined data from a 1988 large group practice physician survey and 1995 focus group data of diverse physician subgroups to develop a comprehensive model of physician job satisfaction. The large group practice survey cited day-to-day practice issues, relationship with patients and colleagues, and positive aspects of administrative issues ("concentration on patient care with management done by professionals") as sources of satisfaction. Sources of dissatisfaction were the stress-related aspects of day-to-day practice, such as patient volume and workload. The focus group participants cited dissatisfaction with paperwork hassles and continuity of care.

[12] Friedenberg sent a nonstatistical questionnaire to 860 family practitioners and general internists in Orange County, California, to determine whether physicians believe their HMO practice in 1998 was more satisfying to them and to their patients than in previous years. The questionnaire did not ask how long the physician had been in practice, and this qualification might help explain some of the dissatisfaction with the HMO setting. Friedenberg notes that individuals who had practiced in an indemnity environment for over 20 years would have a harder time adjusting to an HMO practice and, therefore, would tend to have a negative view of HMOs. The respondents noted the following patient complaints to physicians: limits on the choice of physicians; delayed or denied authorizations for treatment and specialists' care; limits on formulary; poor doctor-patient relationships; not enough time with patients; patient confusion about HMO regulations and benefits. The effects of the HMOs on the physicians' practice in 1998 were summarized as increased paperwork requiring more staff; decreased income; not enough time with patients; too many patients; no control over practice; worsened doctor-patient relationships; loss of control of referrals; difficulty with referral procedures and approvals; changing and limiting formulary; patient continuity.

[13] Burdi and Baker examined change in levels of satisfaction and autonomy among California physicians using data from 1991 and 1996 surveys. The study focused on physicians who were under the age of 45 with two to nine years of practice experience. These physicians were primarily trained in the era of managed care and may have adapted to the managed care effect on their practices. The study found that, from 1991 to 1996, fewer physicians felt they had autonomy. Satisfaction also declined during this time. Reasons for less autonomy were related to quality-of-care issues, such as the reduction in the physicians' freedom to make decisions and not spending sufficient time with patients. Insufficient time with patients was a significant issue voiced by primary care physicians. Declining autonomy in a profession that historically had a high degree of control over their practices may have reduced satisfaction. Additionally, declining incomes for some physicians may contribute to the lower satisfaction level.

[14] Williams et al. sampled physicians in five of the largest managed care health plans in Massachusetts to determine the physicians' ratings of the plans and the factors that influenced those ratings. There were significant differences in the way plans used rules, financial incentives, and education to influence the clinical behavior of the physicians. The respondents perceived that the staff model HMO had a higher use of education and a lower use of financial incentives than other plans. The opposite perceptions were true of IPA models. Physicians believed that education had the most significant effect on practice patterns and promoted quality of care. Denials of requested care had a negative effect on the physicians' evaluation of the plan.

[15] Konrad et al. reviewed previous physician surveys, interviews, and focus group data to develop a comprehensive approach to assessing physician job satisfaction. Examining earlier research, the authors identified seven initial domains that described physician satisfaction with jobs or careers: autonomy,

relationships with colleagues, relationships with staff, relationships with patients, pay, resources, and status. These items were expanded and reorganized based on expert review to include new facets measuring intrinsic satisfaction: free time away from work, administrative support, and community involvement. Global facets were also added to measure job, career, and specialty. The "Physician Worklife Survey" developed in this study attempts to recognize the diversity of the physician population. The study cautions that this survey is a "work in progress" and those future assessments of healthcare changes need to include physician attitudes and behaviors.

[16] Halm et al. used a cross-sectional survey of primary care physicians in outpatient facilities to examine physicians' attitudes about the effects of gate-keeping. The study attempted to identify both the positive and negative effects. Compared to the traditional healthcare plan, physicians reported that gate-keeping had a negative impact on administrative tasks. A negative effect was also noted on the physician-patient relationship, and on the appropriate use of hospitalization, laboratory tests, specialists, and medication choice. However, the physicians' felt that these negative aspects were basically the same in traditional healthcare plans. Gate-keeping had a positive effect on the frequency of routine preventive care, and control of the overall cost of care was viewed as a positive outcome. Physicians with fewer years in practice were more positive in their assessment of gate-keeping, citing controlled costs and quality, coordination, knowledge, prevention, and resource use. The study concludes that years in clinical practice appeared to be the significant predictor of positive opinions about gate-keeping.

[17] Kennedy discusses the perceived loss of autonomy in the managed care setting. Physicians are increasingly concerned over the lack of decision-making, the quality of care, and control over how care is delivered. Physicians are attempting to take back control by negotiating through state and national associations, and, in some cases, they are considering unionization. The AMA has identified the following areas of physician concern: lack of input into medical policy and clinical parameters, declining income, job security, inefficient utilization control, and payment procedures that increase the physicians' cost of doing business. The AMA has supported the physicians' call for more aggressive representation.

[18] Crane discusses the results of the *Medical Economics'* 75th Anniversary Survey. Most physician respondents feel that managed care has had a significant impact on the medical profession. Physicians ranked their top five problems as: the impact of managed care; loss of physician autonomy in patient care; government intervention in medical practice; maintaining a satisfactory income level; and malpractice claims. Specifically, the challenges with managed care involved the "hassle factor," i.e., plan rules, which change frequently, and authorizations. Loss of autonomy, which was described as too many non-physicians (government agencies and insurance companies) telling physicians how to practice, was a major concern. The survey respondents contend that the use of non-physicians does not reduce healthcare costs because in most cases, patients still have to see the physician. Many surveyed physicians felt that the numbers of specialists being trained were too large. However, most of the physicians did not see physician oversupply as an urgent problem. Some physicians believe that managed care and the availability of medical information have caused patients to lose confidence in their doctors. Many physicians surveyed thought that the removal of patients from the economics of healthcare (third-party payers) has led to overutilization. Although many physicians were unhappy with the current state of healthcare and generally pessimistic about the next ten years, most would choose medicine again as a profession.

Appendix B

[19] Colby contends that the greatest fear of physicians today is the loss of autonomy. In the 1993-1994 survey for the Physician Payment Review Commission (PPRC), 72 percent of physicians felt that external review and limits on clinical decisions were serious problems in the HMO environment. Physicians believe that the influence of insurance companies will continue to change the way medicine is organized. However, most physicians still believe that medicine is an attractive profession.

[20] Zimberg and Clement examined the factors influencing physician motivation and satisfaction. The authors identify the motivational factors as: financial security, affiliation security, esteem/professional affiliation, and self-actualization. Some physicians lost job security by being "locked out" of their profession through buyouts, patient shifts in the system, patient satisfaction surveys, and economic credentialing. Including the physicians in the practice management decisions can increase job security. Third party payers and hospitals have had more influence on clinical decision-making, and these intrusions have reduced the physicians' control over their practice and affected their self-esteem. The employer replacing the patient as the consumer has affected the direct patient-to-physician relationship. The authors contend that professionalism and intellectual stimulation are two components needed to ensure self-actualization. Attention to these motivating factors and making sure the physician is part of the management process are the key to satisfied and motivated physicians.

[21] Crewson and Sunshine sampled radiologists through questionnaires to determine variations and trends in the physicians' professional satisfaction. The survey found that the satisfaction in the radiology profession had decreased from 1990 to 1995. The authors noted that the perceived, rather than actual, negative effect of managed care was the major factor in the satisfaction decrease. This study found low correlation in the number of managed care patients in the practice and physician satisfaction. If the working environment and government policy remain relatively stable, the satisfaction rating may improve as radiologists become more accustomed to managed care.

[22] Williams et al. developed a multidimensional physician job satisfaction measure and separate global satisfaction measures. The intent was to measure physicians' satisfaction with various job facets. The survey measured autonomy, relationships with colleagues, patients and staff, personal time, pay, administration and resources. Global measures of satisfaction included job satisfaction, career satisfaction, and specialty satisfaction.

[23] Hadley and Mitchell analyze physician survey data to determine whether HMO market penetration is associated with the number of patients seen per week, the number of hours worked per year, and satisfaction with the current practice. For all physicians, as the HMO population increases, the annual hours worked and the number of patients seen per week decreases. For specialists, this reduction in patient visits is greater. This result is consistent with the goal of gate-keeping to reduce specialists' services. The study notes that some organizations have recommended reductions in future supplies of physicians. However, the data reflect that the effective physician supply is already decreasing because of the changes in the healthcare market. Lower satisfaction in areas of higher HMO penetration should be analyzed further. It is unclear whether lower income or new market pressures and limits on the physicians' ability to provide "top-quality" care affect satisfaction.

[24] Vickman discusses the propensities of physicians that make them more susceptible to burnout, perfectionism, an overdeveloped sense of responsibility, socialization, and training in an intensely criticism-laden environment. Other factors contributing to burnout include control, inordinate expectations, sacrificing and mortgaging for the future, and difficulty establishing healthy boundaries. The healthcare organization makes up the other half of the burnout risk. Excess workload, lack of control over one's work setting, breakdown of the workplace as a supportive community, inappropriate reward systems, lack of fairness in organizational decision-making, and conflicting values are organizational characteristics that contribute to burnout. The author suggests that these signs of burnout should be examined as organizations try to identify areas for improvement.

[25] Collins et al. analyzed data from the 1995 Commonwealth Fund Survey of Physician Experiences with Managed Care. The study found that women physicians were more likely to be in generalist or primary care practices. Women were more likely to work fewer hours per week than their male counterparts, but they also tended to be on the lower end of the physician income distribution. The authors attribute this to the young age of the sampled women physicians and their shorter hours. On average, physicians contract with eight different managed care plans. The women physicians were more likely than their male peers to have a larger percentage of managed care patients and contracts. Only one-fourth of the survey respondents felt very satisfied with their practices overall. The women physicians were more likely to report time constraints with patients and the ability to remain current in their field. The survey found that "... a high proportion of physicians reported a decline in their ability to make decisions they think are right for their patients compared to three years ago." For all physicians, satisfaction with practice decreased with the high concentrations of managed care. Group/staff HMO physicians were less likely to be dissatisfied with high levels of managed care patients in their practice.

[26] Sly discusses the impact of managed care on quality of care. Citing a 1996 survey of Pennsylvania physicians, the author found that the majority of the primary care respondents believed the limitations on diagnostic sites, choices of specialists, and limits on frequency of specialist visits affected the quality of care. There was also a belief that cost reductions took priority over the quality of care. Financial pressures have also negatively affected charitable care to the medically indigent. Reviewing data from a 1996-1997 national study of physicians, the author found that the charity care was significantly lower by physicians who received at least 85 percent of their practice income from managed care plans. With the emphasis on productivity and the decrease in funding, academic work in teaching and research has also been negatively affected in the managed care environment.

[27] Chuck et al. surveyed 406 physicians in Solano County, California, to determine the current physician job satisfaction and identify the factors that influence satisfaction. The sample was drawn from the membership rosters of the Solano County Medical Society and Kaiser Permanente Medical Group. Most physicians in the study were, overall, satisfied with their work. The authors note that this result might bring into question the negative effects of recent healthcare changes reported by physicians. Have the severity and effect of recent healthcare changes been overstated? Having fun at work had the strongest correlation with overall job satisfaction. The study did not reflect a difference between the satisfaction levels of primary care and non-primary-care physicians. Within the physician sample, Permanente Medical Group physicians felt they had more control over hours worked and were more satisfied with income, benefits, and job stability than their colleagues. Most physicians felt good about their ability to help their patients, enjoyed the relationship they had with their patients and colleagues, and found their work intellectually stimulating.

[28] Grumbach et al. surveyed a sample of primary care physicians in California to determine the use of financial incentives by managed care organizations and the effect on physicians' perceptions of their practice. Thirty-eight percent of the respondents reported that their managed care arrangements included some type of incentive. The physicians who reported incentives tied to productivity were less satisfied with their practice than physicians who reported incentives tied to quality of care. A greater proportion of physicians working in group-model or staff-model HMOs reported incentives tied to quality of patient care and patient satisfaction. Many physicians felt pressure to limit the number of referrals and see more patients per day. They also reported that this pressure affected the quality of patient care. The authors concluded that financial incentives based on patient satisfaction and quality of care are more likely to lead to high quality of care and physician satisfaction.

[29] Borkan and Sheva conducted case studies of five family practices to analyze the current climate of health care in the family medicine environment. The study found that the physicians generally felt that their salaries and status had improved over the past 5 years. However, the physicians were concerned about the rapid changes in the healthcare structure, the continuity of relationships, increased demands on the practice and interference in clinical decision-making. The continuing changes due to sales and mergers of practices, and managed care organizations have disrupted professional affiliations, alliances, and referral patterns. The disruption of the patient-physician relationship due to changes in healthcare plans and benefits was noted as a significant change, which affected the patient's continuity of care. The physician-physician relationships were felt to be more adversarial in the managed care environment due to the confrontations over money and the responsibilities for obtaining service authorizations. Primary care physicians in some instances can now be viewed as stakeholders in the managed care plans. This change in the physicians' role can influence the clinical decision-making. Care providers in this study perceived increased pressure to see more patients in less time and to assume more administrative work. With the increasing contracting with managed care organizations, care providers are inundated with benefit and payment information that varies by plan. Referral rules, drug formularies, and incentive opportunities can be unique with each managed care plan and with groups within that plan. Providers believed these administrative burdens put additional demands on time and labor. To retain a constant patient base, most provider sites had contracted with almost all of the managed care plans in their areas. Many primary care providers in the study felt that the gate-keeping arrangement was a positive aspect of managed care and one that they had advocated. Additionally, the financial benefits of managed care (capitation viewed as more consistent income) and the coverage of more preventive care were seen as positive. The observations at the five family practice sites confirmed that there are competing ideologies between "primary care as a business and as a 'calling.'" The patients' trust in the healthcare system and in their care providers is critical to the maintenance of a healthy patient-provider relationship and the stability of the healthcare system. The authors believe that the observations made at these five sites have global application.

[30] The results of a 1997 physician survey are discussed in the May 27, 1997, *Medical Economics*. Physicians are concerned with the negative effects of managed care on their practices. Loss of autonomy, lack of time to spend with patients, increased administrative burdens, and continuity of care are problems associated with the managed care environment. Other practice changes noted in the past three years (prior to 1997) are less time spent with colleagues; decreased ability to remain current/knowledgeable; and limits on referrals to specialists of choice.

[31] Buchbinder and Wilson reviewed survey data from a group of 533 post-resident, employed, nonfederal PCPs younger than 45 years of age and in practice between two and nine years. The study examined the relationship between PCP satisfaction and physician turnover (job exit). The inability of physicians to control their work schedule, order tests and procedures that they felt appropriate, and take care of patients even when the patient was unable to pay for services were related to turnover. All of these variables were associated with PCPs who were more likely to leave. The study found that PCPs who believed that the influence of third-party payers would decrease in the future would be more likely to leave than PCPs who believed third party payers' influence would increase or remain the same. One of the limitations of this study is the dates of the surveys –1987 and 1991. The authors note that, if events and issues being measured are dynamic in nature, the study results might be dated.

[32] Chuck examined the results of a questionnaire given to 84 premedical students in California. The responses from this group were compared to those from nearby practicing physicians. Physicians are increasingly voicing dissatisfaction over loss of income and autonomy and deterioration of the physician-patient relationship. However, the enrollment in medical school continues to increase. The question asked by the author is: "Do premedical students know what they are getting into?" The practicing physicians cited business and administrative issues that have had a negative impact on their practice. The study found that, as a group, the students underestimated the negative toll these issues have taken on the practicing physicians. The study notes that, when various careers are compared, medicine continues to offer a combination of professional satisfaction and financial security.

[33] A questionnaire developed by the Pediatric Emergency Medicine (PEM) Collaborative Research Committee and Losek was sent to the PEM faculty at Children's Hospital of St. Paul, St. Paul, Minnesota, to determine the characteristics of the faculty and the faculty's workload. Participants were PEM departments with PEM fellowship training programs. The survey indicated that program directors believe the clinical workload to be excessive and the reason for attending physician burnout. The survey data found that inadequate attending-physician coverage appeared to be the reason for the perceived workload excess. The perception of excessive workload may prevent the full-time practice of PEM after the age of 50. Reducing the number of hours, increasing staffing, and restructuring the shift and overnight work might resolve these problems. The fear is that the PEM academic physicians are the future teachers of pediatric emergency medicine and that, if the job satisfaction issues are not addressed, the PEM programs could be jeopardized.

[34] Gold et al. surveyed clinic managers and executives of managed care plans to identify the arrangements that plans have with physicians and understand how these arrangements may affect the physicians' practice as managed care continues to grow. The report discusses three areas in which managed care could make a difference in the delivery of health care: provider selection and retention; payment and risk sharing; practice and utilization management. The study concludes that managed care is changing the way physicians practice medicine. "These changes include less independence for physicians and less financial and utilization flexibility." The study notes that managed care tends to create more clinically cohesive organizations and collects population-based and clinical information that can be used to improve performance. The report does not address how access, cost and quality of care are influenced by managed care.

[35] Lachman and Noy examined the Exit, Loyalty, Voice and Neglect (ELVN) reactions of full-time salaried physicians to the decline of their employing hospital. A survey of a representative national sample of salaried hospital physicians (703) was conducted in Israel. The decline of Israeli hospitals was a result of

Appendix B

[35] Lachman and Noy examined the Exit, Loyalty, Voice and Neglect (ELVN) reactions of full-time salaried physicians to the decline of their employing hospital. A survey of a representative national sample of salaried hospital physicians (703) was conducted in Israel. The decline of Israeli hospitals was a result of government funding cuts. How the salaried physicians feel about the employing hospital and their professional and organizational standing within the hospital affect their reaction to the decline of their hospital. Physicians who have short tenure and have low job satisfaction tend to leave or exit as a reaction to the hospital decline. Physicians who have tenure and have a high number of years at the hospital feel more commitment and tend to react with loyalty. Job satisfaction seemed to have a low influence on the Loyalty reaction. Physicians who had a commitment to the hospital and were also in a position to initiate change (managerial position) displayed a voice reaction. Although these physicians might have a low job satisfaction, they felt that they had an influence in the hospital and were more likely to voice their opinion. Physicians who had a low commitment to the hospital, no job alternatives, and an attitude of apathy reacted to the decline of the hospital with neglect. These physicians appeared to "sit and wait" for hospital developments to unfold. The authors concluded that the study results may have important practical applications for the management of health care organizations and resources during times of change and "cutbacks."

[36] Lloyd et al. compared the 1990 scores of the Emergency Physician Job Satisfaction (EPJS) and Global Job Satisfaction (GJS) with the results of a mail survey of 233 Canadian emergency physicians. The study found that the GJS may help predict individuals who are at risk of leaving the practice of EM and provide an opportunity for intervention. The EPJS, however, was not predictive. Reasons for leaving emergency medicine were also compared to previous studies of U.S. physicians. The top three reasons for leaving emergency medicine were the same for Canadian physicians and U.S. physicians--shift work, emotional stress, and family considerations. To increase retention, the study suggests a need to implement an effective work schedule and decrease job stress.

[37] Hart et al. examined data from two staff-model HMOs to determine specialty-specific physician ratios. The study found that the HMOs provided the equivalent of 180 physicians per 100,000 enrollees or one physician for every 556 enrollees. This ratio is higher than estimated in previous studies: one generalist (family practice, internal medicine, pediatrics) per every 1,279 enrollees. The two plans had 26.2 NP/PA/CNM (certified nurse midwife) FTEs per 100,000 enrollees. This is higher than the national average of 21.5. The authors caution that the calculation of FTEs can vary from study to study depending on methods. Physician managers may be counted as clinicians; productivity can be measured differently; patient mix and the use of outsourcing for specialist services will also influence the staffing models. In the two HMOs studied, 19 percent of the FTE physicians were external contractors — primarily specialists.

[38] Hagen discusses the MGMA approach to staff benchmarking. Counting only the number of FTEs per physician does not provide a meaningful measurement of the practice staffing level. Four factors must be considered to provide useful benchmarking: productivity as measured by gross charges; conversion of the gross charges to comparable levels of work; the staffing costs; and the quality of work. The author cautions that staffing levels need to accommodate the technology in place to support the staff. If levels are set too low, accuracy, patient relations, and staff morale can be negatively affected. Staffing goals should be dynamic and be reevaluated as changes occur in technology and in the work to be done.

[39] Bodenheimer discusses the interaction between physicians and managed care in terms of physicians' organizations, compensation methods, the amount of time spent with patients, relationships of primary

care physicians and specialists, and physician workforce. The report describes a variety of practice arrangements that have become prominent in the managed care environment: IPAs, medical groups, practice management companies, physician-hospital organizations, group-model and staff-model HMOs, and individual practices and small group practices. The compensation method of fee-for-service for primary care physicians and capitation for specialists has been reversed by a number of managed care organizations. Many HMOs and IPAs have initiated incentive and bonus payments to reduce the number of referrals to specialists and hospitals. A more positive trend has been to tie these payments to quality of care and patient satisfaction. Most of the primary care physicians in managed care settings in California report pressure to see more patients per day. The primary care gatekeeper system has limited specialty care and has been a frequent complaint of managed care patients. Specialists are forming single-specialty groups to improve their contract negotiations with managed care organizations. There is evidence of an oversupply of physicians; however, future growth is predicted in the physician-to-population ratio.

[40] Simon and Born examined the physician earning trends in a managed care environment over the past decade. Physicians' incomes steadily increased from 1982 through 1993. Earnings declined almost 4 percent from 1993 to 1994. A key component of managed care is cost containment. Most managed care organizations are reducing physician reimbursement and limiting the number and type of physician services. The study data indicated that managed care has shifted the demand for services to primary care physicians and reduced the utilization and fees for both primary care and specialty providers. For all specialties, except general and family practice, income generally declined from 1993 to 1994. The income difference between primary care physicians and specialists has narrowed. The specialties that had the highest earnings in the late 1980s generally experienced the largest income declines in 1993-1994. The authors concluded that there is a direct, but weak, association between decreased physician earnings and managed care penetration. Other factors affecting earnings include Medicare reimbursement, practice size, and ownership status.

[41] Landon et al. describe the diverse structures of the health care plans and their influence on the delivery of care. Past studies of the effects of managed care have focused on financial incentives and administrative requirements. The study found that care can be influenced by the nature and capabilities of the contracted providers and any direct contact the plan has with enrollees (e.g., flu shot and screening mammogram education). Financial incentives, the management strategies of the managed care organization, the structural characteristics of the practice, and the information or normative influence of the organization have direct influence on the physician. The authors contend that these factors and their influence on physicians need to be evaluated to determine the effects of managed care on health care.

[42] Parish notes that a new generation of HMO contracts is shifting the risk and administrative duties to the physicians groups. Some physician groups, for example, are assuming physician credentialing, pharmacy costs and risk management. While physicians felt that these new contracts would give them more control over their practice, in some cases the risk and additional administrative burden have been underestimated and managed inefficiently. Most of these contracts are paid through capitation arrangements. Capitation rates have been lowered by the healthcare plans over the past few years. Medicaid and Medicare payments have also been reduced. This lower reimbursement, coupled with increased administrative work, has contributed to the financial instability of some medical groups. One physician group is paying member physicians fee-for-service and has been financially successful. The group's president and CEO contend that determining an equitable capitation rate is actuarially impossible. Plans have also not been able to supply adequate and timely financial and utilization reporting to the physician groups. This failure to provide critical data has become a major barrier to the efficient management of medical care.

[43] Slomski cites recent surveys that show the recruitment and income of specialists increasing since 1998. During 1997, compensation for both primary care and specialists remained flat. Many managed care plans are simplifying or reducing specialist referral rules, which is opening up more services for specialists. Additionally, baby boomers are coming of age and the demand for specialists is increasing. Technology has also played a role in increasing the specialists' compensation—ophthalmologists, dermatologists and plastic surgeons. Compensation is returning to fee-for-service with medical directors monitoring and managing the side effects of utilization. In 2000, cardiologists appear to be the specialty in most demand. While healthcare experts are expecting physician compensation to increase over the next few years, the long-range outlook is for maximum production and a flat income by 2003.

[44] Beran and Lawson examined data on the financial assistance provided to students for medical school during the 1996-1997 academic year. The total financial assistance obtained through loans during this year was more than \$1.11 billion. Loans accounted for over 80.1 percent of the financial aid. The annual rate of increase for scholarship dollars continues to fall behind the rate of increase for loans. Increased reliance on loans has increased the educational debt for the medical school graduate. The 1997 medical school graduates experienced the highest level of indebtedness in 8 years. The percentage of graduates owing for educational debt was 83.2 percent. The mean educational debt was \$80,462.

[45] Salive conducted a survey of 1979-1989 graduates of preventive medicine residencies to examine the physicians' satisfaction overall and in five dimensions—contribution to people's lives, respect from physicians in clinical practice, research opportunities, income, and time to pursue outside interests. Physician satisfaction varied significantly according to primary work affiliation. The exception was contribution to people's lives; this characteristic was fairly consistent for all the physicians regardless of practice setting. Physicians employed by the Federal government had the highest satisfaction rating, citing research opportunities and time to pursue other interests. Physicians in medical care settings had the lowest overall job satisfaction. However, they had the highest ratings for respect from physicians and contributing to people's lives. Satisfaction with income was lowest in academia.

[46] Murphy et al. studied the activities of more than 170,000 healthcare workers (including 47,692 registered nurses) in 138 acute care healthcare facilities. The study found that the RNs were performing an excessive number of activities and experiencing a loss of focus on the professional components of nursing. A high percentage of the RNs' time was spent on activities also performed by other job classes. RNs spent a significant amount of time on management of paperwork required by the healthcare insurers. As healthcare systems become more complex, the nursing staff manages the problems caused by this complexity. Additional activities are assumed by the RNs, and less time is spent in patient care. The complexity of the RN role is related to a decrease in RN morale and higher stress levels. Decreased quality of care and patient satisfaction, as well as decreased physician satisfaction, is also related to the complexity of the RN role and their ability to manage excessive processes. The study suggests that current solutions to manage the increased complexity have not been effective—productivity studies, reengineering, patient classification systems. These methods attempt to manage the number of workers instead of eliminating the problem.

[47] Freeborn and Hooker surveyed 5,000 non-physician employees of a health maintenance organization. Physician Assistants (PAs) were satisfied with the amount of responsibility, hours worked, support from co-workers, job security, supervision, and variety of tasks, income, and benefits. They were

acceptance of the PA in the practice setting were related to the PAs' role satisfaction and efficient use in the practice.

[48] Simon et al. conducted a survey in 1997 of academic physicians and medical students to determine their experiences in and perspectives on managed care. The respondents rated fee-for-service medicine as better than managed care in terms of access, minimizing ethical conflicts, and the quality of the doctor-patient relationship. Respondents also preferred fee-for-service in terms of continuity of care. In general, the respondents reported negative attitudes about managed care. A majority of faculty members, directors of residency training, and department chairs and deans believed that managed care had reduced the time available for research and teaching. Decreased income, job security, and collegial relations were also reported. Additionally, the deans reported decreased budgets for medical education as a result of managed care. Specialists, overall, were more negative about the effects of managed care than their primary care colleagues. While students and residents had little experience with managed care, they reported negative attitudes toward the managed care environment. Students and residents confirmed that their negative views of managed care were the result of negative communication received from their teachers.

[49] Donelan et al. examined findings from five national surveys of physicians in various practice settings to determine whether physicians' views of managed care are influenced by whether they practice in areas of high or low levels of managed care. Survey responses indicate that physicians in areas of high levels of managed care were more likely to be dissatisfied with their practice and the healthcare system. The top three problems identified in the survey were lack of continuity in patient populations due to changes in their insurance coverage, administrative requirements surrounding patient referrals to specialists, and limitations on referrals to specialists of the physician's choice. Physicians in areas of high HMO penetration were substantially more likely than physicians in low penetration areas to report serious problems in their practices. High penetration was also associated with a perception of an oversupply of physicians. This view of a physician oversupply was reported more frequently from the HMOs and PPOs than from the physicians or the hospitals. The study concluded that there does not seem to be a trend away from specialty practice to primary care. The majority of physicians would still recommend medicine as a career.

[50] Belkin suggests that managed care reflects a "technocratic wish: an appeal to objective measures to resolve contentious issues and/or clothe their resolution as scientifically logical and natural." Managed care draws its worth and value from the objectivity it imposes on the current political and economic tensions surrounding healthcare. Managed care is viewed as the scientific or objective solution to the healthcare problems. Standardizing the practice of medicine will force discipline on healthcare while controlling costs and quality. The author argues that if a solution is called objective and scientific, it is viewed as the natural and logical resolution of a problem. The downfall is that it also relieves the policy-makers of the need to search for a more advantageous solution.

[51] The Managed Care Information Center discussed the control and coordination of care assumed by the primary care physicians in the managed care setting. This "gatekeeper" role has proved to be cost effective; however, many physicians believe their scope of care has increased. Many primary care physicians felt that the expanded level of care they were expected to provide without referrals was "greater than it should be." The study concludes those physicians with broad training and more years of experience are more comfortable with their expanded role. Therefore, these concerns may be resolved given time, experience, and education.

Appendix B

experience are more comfortable with their expanded role. Therefore, these concerns may be resolved given time, experience, and education.

[52] Conway et al. developed a structural equation model to assess physicians' perceptions of managed care. The study involved a small group of physicians from a single hospital, the majority of whom did not work at HMOs. Therefore, it is difficult to generalize the results. Only a few physicians (4.3 percent) in the study responded that they were likely to choose a managed care practice setting, if given a choice. Most physicians believed they were fairly knowledgeable about managed care.

[53] Blume discusses the issue of reconciling the traditional patient-centered practice with the new managed care environment. Traditionally, according to the AMA Code of Ethics, physicians put the patient first. In the managed care setting, physicians are increasingly controlled by third-party policies that dictate reimbursement, access to services, and care decisions. Physicians believe that this third-party intrusion negatively affects putting the patient first.

[54] Grumbach et al. examined data from California to determine whether physician supply affects patient access to care. Population characteristics and the number of physicians per 1,000 population were analyzed. Physician supply in the urban communities was associated with many of the community demographics. Lower supply of physicians in the urban areas was likely associated with the urban population factors of low income, uninsured, and members of minority groups. However, a low physician supply was not the critical factor determining patient access. Persons covered by health insurance who have higher incomes were able to obtain access to needed health care regardless of the local supply of physicians.

[55] Rattelman analyzed military physician job satisfaction using survey data collected from physicians at nine MTFs. These data provide a baseline measure of military physician satisfaction prior to the implementation of TRICARE and can be used as a basis to evaluate satisfaction after the TRICARE implementation. The study reported that 58 percent of the physicians were satisfied with their practices. They were least satisfied with the efficiency of their practices and the institutional constraints on policy-making.

[56] Rattelman surveyed military physicians in the Virginia Tidewater region and two other non-TRICARE regions to assess whether the implementation of TRICARE had affected physicians' job satisfaction. The study used results from the initial survey as a baseline and measured any changes in physician satisfaction that had occurred within the first two years of TRICARE. The author notes that the HMO option of TRICARE (TRICARE Prime) had not been fully implemented at the time of the study, and, therefore, the full impact of the TRICARE changes on physician satisfaction and practice could not be measured. The study concluded that the implementation of TRICARE did not, at this stage, have "any statistically significant effect on physicians' overall satisfaction."

Appendix C: Methodology, Assumptions, and Selected Findings for Comparison of Navy and Private-Sector Physicians' Total Compensation, by Medical Specialty [69]

Methodology. We culled private-sector compensation from proprietary databases representing over 90 employer-based healthcare organizations and 22,000 physician incumbents. We feel that comparisons to this sample are appropriate because the characteristics of the organizations reporting data most closely resemble the military environment (56 percent are hospital-based facilities, 29 percent are group practices, and 15 percent are Health Maintenance Organizations). Because we consistently applied the most typical Navy career progression profile assumption to each specialty and because residency/fellowship program lengths vary, neurosurgery, otolaryngology, cardiology, plastic surgery, urology, gastroenterology, and hematology/oncology specialties will not have compensation data at the current 7-year and 12- year-of-service present-value career decision junctures.

Both the cross-sectional and present-value comparisons are presented for both median and 75th percentile private-sector data in a separate CNA document (CIM D0002053.A1—*Comparison of Navy and Private-Sector Physicians' Total Compensation, by Medical Specialty*) [69]. Our compensation comparisons may reflect the low end of the physician income spectrum because they do not capture salary data from civilian physicians working in private practice. Therefore, we believe that our compensation comparisons may underestimate the potential compensation differential for those Navy physicians who choose to separate and have the option to join select private practices. For these individuals, the 75th percentile gives some indication of the upper-end possibilities within the private sector.

Assumptions. The profile assumes graduation from medical school at age 26, due course promotion to O6, a 4-year Armed Forces Health Professional Scholarship Program (AFHPSP) followed by a 1-year active-duty internship (GME-1), and 2 years as a general medical officer followed by commencement of full-time in-service residency training. Specialties requiring fellowship training are assumed to occur after a 2-year staff utilization tour in the primary specialty.

Compensation. The "compensation package" offered to both military and private-sector physicians comprises many elements. It is vital that policy-makers and individual military physicians understand all the components of compensation (salary, incentive pays, pension, vacations, healthcare, and other benefits) to make a prudent comparison of the military and the private sector.

Navy Physician Cash Compensation consists of:

- Regular Military Compensation (RMC). RMC is composed of Basic Pay, Basic Allowance for Housing, Basic Allowance for Subsistence, and the tax advantage accruing to the non-taxable nature of housing and subsistence allowances. The study was based on the 1 July 2000 RMC data.
- Special pays. Incentive pays are Variable Special Pay (VSP), Additional Special Pay (ASP), Board Certification Pay (BCP), Incentive Special Pay (ISP), and Multi-year Special Pay (MSP). Incentive pays are assumed to be paid in annual installments based on specialty and year of service (as appropriate).

Appendix C

Payments are at rates effective 1 October 1999. Because future increases in incentive pays are subject to legislation, the study assumes current payment levels remain unchanged.

Private-Sector Physicians Cash Compensation is derived from base; incentive and total salary data are taken from the Hay Group 1999 Physicians' Total Compensation Survey. Survey data are effective as of mid 1999. We adjusted all data to 2000 by applying a 4.5-percent trend factor. Total salary is the sum of base salary, incentives, and other compensation. Other compensation includes:

- Board fees
- Partnership or other equity distribution
- Profit-sharing payout
- Property distribution
- On-call differential
- Overtime
- Hire-in bonus or other recruiting incentives
- Distribution from owned ancillary services
- Administrative differential.

Benefit categories for active-service Navy and private-sector physicians are shown below:

Navy and Private-Sector Physician Benefit Categories (Active Service)		
Benefit Category	Navy	Private Sector
Group Life Insurance	Servicemen's Group Life Insurance (SGLI) Veterans Group Life Insurance (VGLI) Dependency and Indemnity Compensation (DIC) Death Gratuity Burial Allowance Social Security Death Benefit Unused Leave Payback	Basic Group Life Supplemental Group Life Dependent Group Life Basic Accidental Death Business Travel Insurance
Disability	Short-Term Disability Long-Term Disability (Temporary and Permanent Disability Retirement)	Short-Term Disability Long-Term Disability
Healthcare	Medical and Dental for Physician and Family (MTF and Tricare)	Health-Care Insurance (Medical, Dental, Vision)
Pension Plan	Military Retirement System Survivor Benefit Plan	Defined Benefit Pension Plan
Capital Accumulation Plan	No military analogue currently available	401(k) or 403(b) plans
Holidays/Vacation	Holidays Leave	Holidays Vacations
Other Benefits	Commissary Exchange Morale, Welfare and Recreation (MWR) Personal legal services Child care	Flexible Benefits Programs

Appendix C

Statutory Benefits	Unemployment Compensation Workmen's Compensation Social Security	Unemployment Compensation Workmen's Compensation Social Security
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All Navy physicians are assumed to retire under the military retirement system that bases payments on the average of the highest three years of basic pay (High-3 system). Currently serving physicians who are at or near the 7 and 12 year-of-service points entered military service following enactment of the Military Retirement Reform Act of 1996 and are covered by that system (REDUX). However, the FY2000 National Defense Authorization Act authorized all REDUX participants the opportunity to transfer to the High-3 system at their 15 year-of-service points. The study assumes that all physicians will transfer to the High-3 system.

Military benefits for retired Navy physicians working in the private sector include military retirement and the survivor benefit plan. The study does not include the value of several benefits under the presumption that they would not be used. These include retiree medical care, commissary and exchange, MWR, childcare, and use of installation legal services.

Benefits for retired private-sector physicians include pension and capital accumulation plans, survivor benefit plans, and retiree health coverage.

Economic Assumptions

Economic assumptions regarding future inflation, salary growth, and interest are needed to compute the present values of future income and benefit streams. The study uses assumptions adopted by the DoD Office of the Actuary in the annual valuation of the military retirement system. The table below shows the values used. In combination, these assumptions indicate that future wage growth will be 0.5 percent above inflation, and future interest rates will be 3.0 percent above inflation.

Economic assumptions	
Inflation	3.5%
Wage Growth	4.0%
Interest	6.5%

The interest rate also represents the discount rate or an individual's time preference for money. Very conservative individuals generally display a low discount rate that reflects a relatively even preference between receiving a dollar today or a dollar at some time in the future. Less conservative individuals generally display higher discount rates; they have a stronger preference for receiving a dollar today than a dollar sometime in the future.

The Office of the Actuary's interest-rate assumption reflects a relatively conservative long-term view of future interest rates. Individual physicians having a less conservative view of future interest rates and a pronounced preference for income now versus income in the future may want to use a higher discount rate in comparing Navy and private-sector compensation. The effect of using a higher discount rate is to lower the lump sum equivalent value of the future Navy compensation relative to the private sector.

Mortality Assumptions

The source for active duty, retired, and survivor mortality rates was the DoD Office of the Actuary Valuation of the Military Retirement System. These rates were applied to both Navy and private-sector

Appendix C

lives assuming that mortality for a specific individual would not be significantly affected by whether he or she remained affiliated with the Navy.

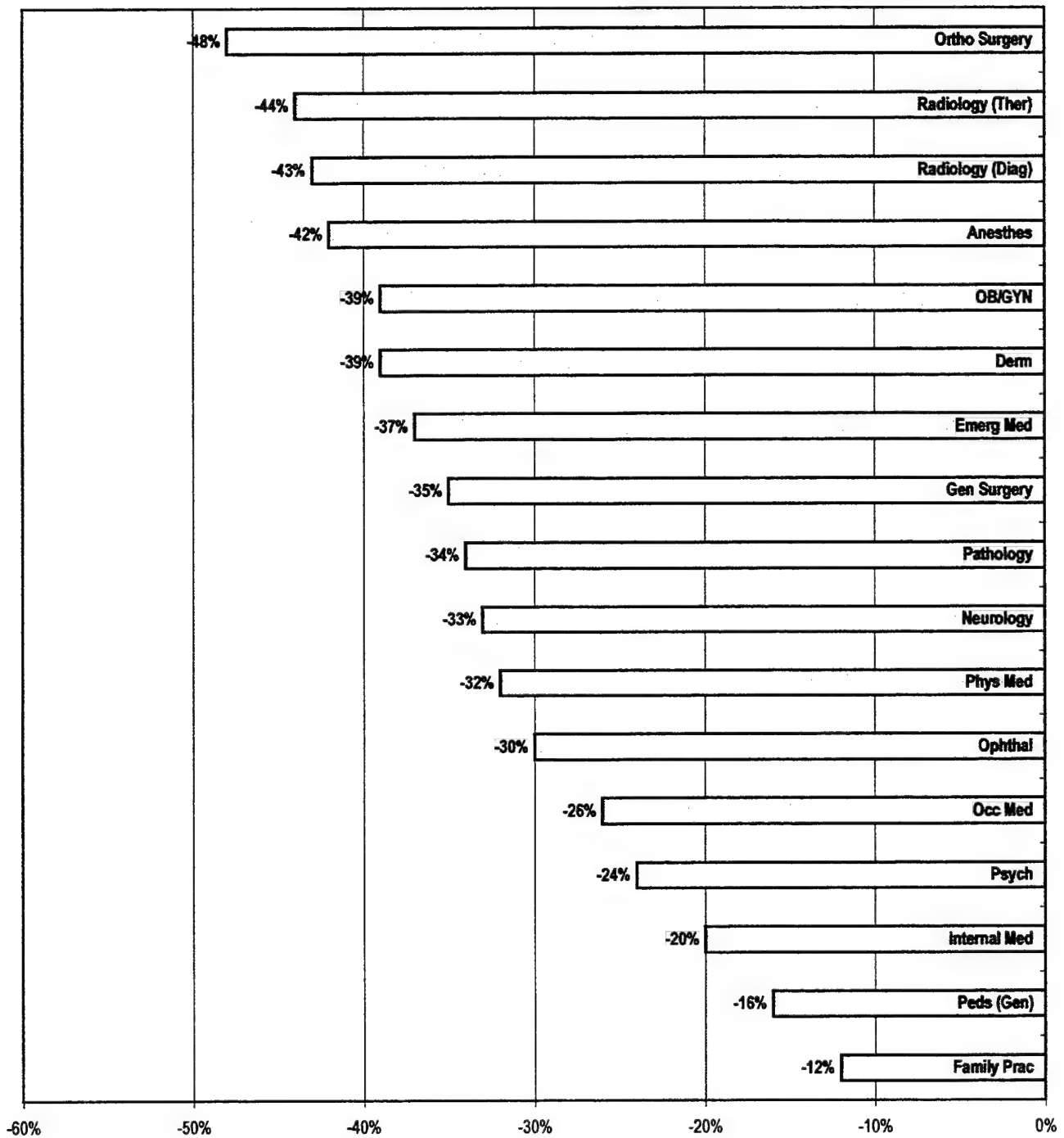
Figure 1 summarizes the current compensation (the sum of cash salary, special and incentive pays, and benefits) at 7 years of service. The current compensation of uniformed services ranges from 12 percent below the median private sector for family practice to 48 percent below for orthopedic surgery at the 7-year-of-service juncture.

When we look at the current compensation at the 12 year-of-service point, the Navy uniformed services range from 2 percent below the median private sector for family practice to 56 percent below for neurosurgery (figure 2).

The present values of compensation data are the result of hypothetical "stay-leave" decisions. The present-value calculation differs from the current compensation "snapshot" because it accounts for the remaining Navy compensation a specialist would receive until reaching 20 years of service, the projected military retirement income, and the cash and benefits from working in the private sector until age 65.

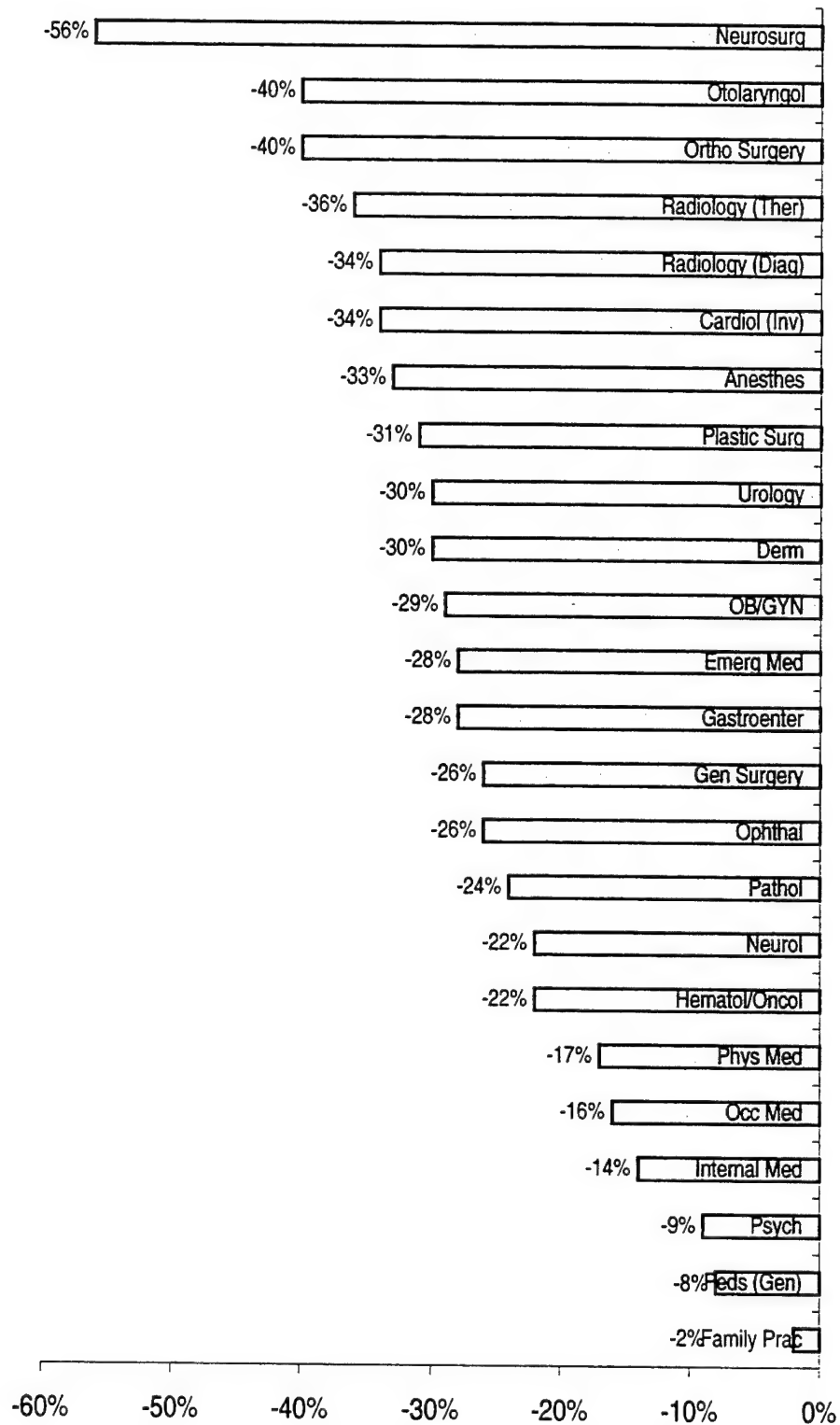
Figure 3 illustrates the comparison of the present value calculation at 12 years of uniformed service. This compares the present value of the stream of future cash and benefits that a Navy physician could expect to receive by staying on active duty until 20 years of completed service (from the year of service depicted) and then practicing in the private sector until age 65 versus separating now and working in the private sector until age 65. This calculation shows that the present value of the uniformed services career compensation option ranges from 13 percent above the median private sector for family practice and general pediatrics to 7 percent below for orthopedic surgery.

Figure 1. Total current compensation at 7 years of completed service
Navy uniformed service vs. private sector median physician



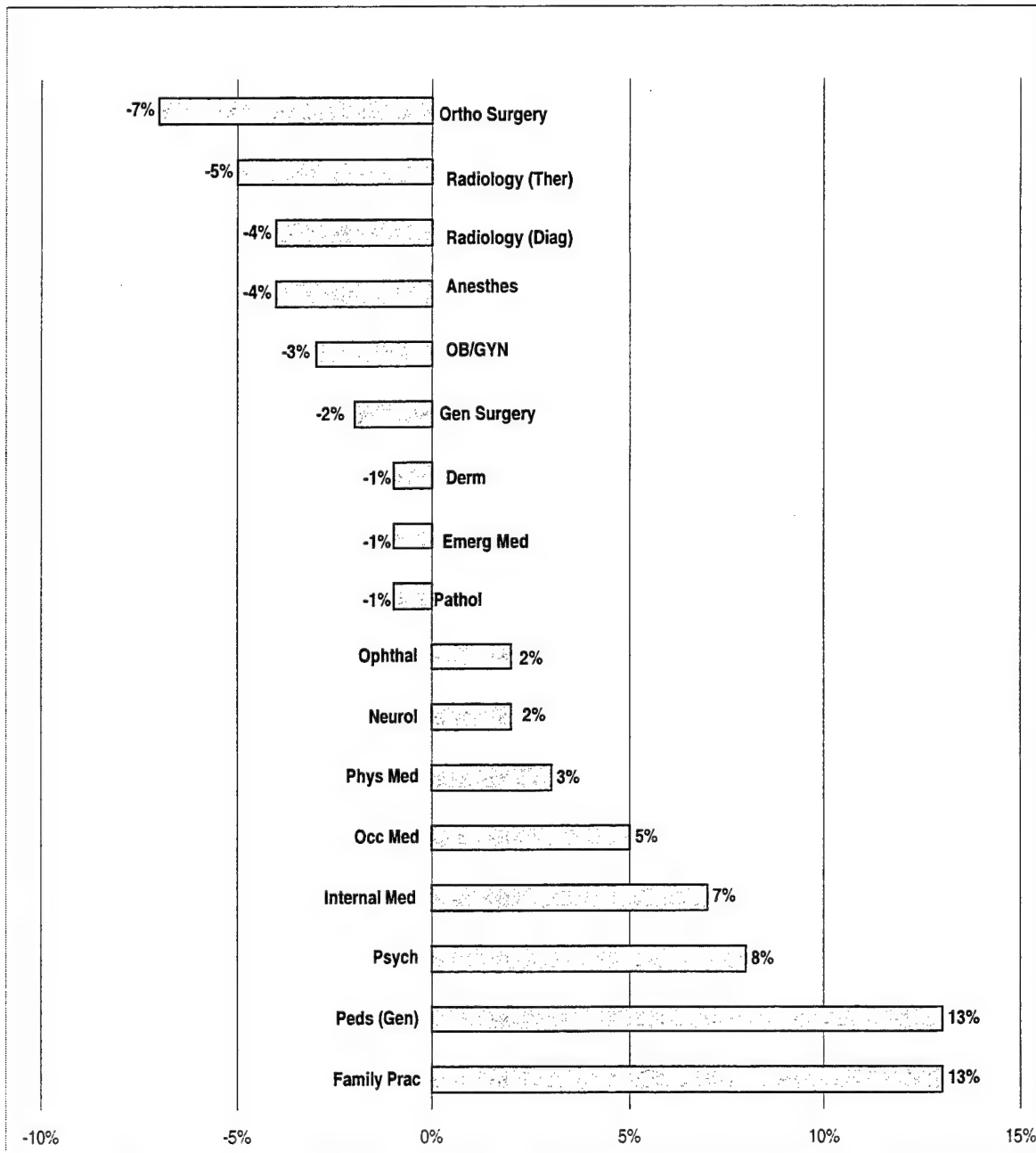
Appendix C

Figure 2. Total current compensation at 12 years of completed service—
Navy uniformed service vs. private-sector median physician



Appendix C

Figure 3. Present value of total compensation at 12 years of completed service—
Navy uniformed service vs. median private sector, by specialty



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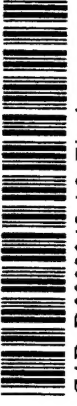
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